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MAINSTREAMING MILITARY COMPENSATION: PROBLEMS AND PROSPECTS

by
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September 1998

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ABSTRACT ***(maximum 200 words)*** Changes to the military retirement system in the 1980's and attention by law makers, military leadership, and service members to pay comparability between the private sector and the military indicate that current military compensation policies may be inadequate to recruit and retain the necessary personnel. This thesis examines the military retirement system in light of developments in private sector retirement policy. It also examines the pay structure used in the military and addresses current pay gap issues. Defined contribution plans in the private sector have been increasingly successful in public and government organizations. Examples include the Federal Employees Thrift Savings Plan and Section 403 (b), Section 457, and Section 414(h)(2) tax-deferred retirement plans. These plans benefit employees in retirement by providing themwith tax incentives to encourage saving during their working years. The recent introduction of the Roth IRA provides individuals a new opportunity to save for retirement years. The success of the U.S stock market since the 1970's indicates that saving through a defined contribution plan or IRA may provide income security for retirement years. It is concluded that the current military retirement system may have to be modified to reflect these developments in the private sector. Prospects for reform include some form of defined contribution plan for military members, eliminating or reducing the perceived pay gap, restructuring the military pay system, and improving DoD's financial management programs.

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MAINSTREAMING MILITARY COMPENSATION: PROBLEMS AND PROSPECTS

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ABSTRACT

Changes to the military retirement system in the 1980's and attention by law makers, military leadership, and service members to pay comparability between the private sector and the military indicate that current military compensation policies may be inadequate to recruit and retain the necessary personnel. This thesis examines the military retirement system in light of developments in private sector retirement policy. It also examines the pay structure used in the military and addresses current pay gap issues. Defined contribution plans in the private sector have been increasingly successful in public and government organizations. Examples include the Federal Employees Thrift Savings Plan and Section 403 (b), Section 457, and Section 414(h)(2) tax-deferred retirement plans. These plans benefit employees in retirement by providing them with tax incentives to encouraging saving during their working years. The recent introduction of the Roth IRA provides individuals a new opportunity to save for retirement years. The success of the U.S stock market since the 1970's indicates that saving through a defined contribution plan or IRA may provide income security for retirement years. It is concluded that the current military retirement system may have to be modified to reflect these developments in the private sector. Prospects for reform include some form of defined contribution plan for military members, eliminating or reducing the perceived pay gap, restructuring the military pay system, and improving DoD's personal financial management programs.

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I. INTRODUCTION

A. BACKGROUND

The concept of paying workers according to their contribution and performance has long been the cornerstone of the American free enterprise system. For most Americans in the labor force, wages are determined by the rules of the marketplace. However, unlike those pay systems used in the civilian sector, the military compensation system relies on the principles of rank, seniority, and time in service. Though the military compensation package consists of different pay, allowance and benefit programs, this study will focus mainly on basic pay and military retirement compensation. Specifically, this study will focus on whether the current military compensation system is sufficient to achieve force structure requirements in the future. It will address whether changes to the current system could provide savings to the Department of Defense, while providing military members the long-term security required to achieve force structure requirements in an all volunteer force.

A competitive wage system for the military has been and remains a critical issue in the retention of personnel. Military advocates argue that members of the services should receive pay that is comparable with the private sector. They note that 1982 was the last year in which military and civilian sector pay was comparable. They attribute this gap to insufficient funding to maintain cost of living adjustments since the early 1980's. [Ref. 1, p. 1]

In 1993, in an effort to reduce overall defense expenditures, the Clinton Administration proposed a series of caps on military pay increases. This action came after an almost 12 percent gap in wage growth had developed between 1982 and 1992,

using the Bureau of Labor Statistics Employment Cost Index (ECI). [Ref. 2, p. 1] The ECI is the index currently used in setting military pay increases. With the exception of pay raises in 1981 and 1982, Congress has capped military pay raises since 1977 such that the cumulative gap now exceeds 13 percent. The fiscal year 1998 Department of Defense (DoD) Authorization Act included a 2.8 percent pay increase, effective on January 1, 1998. [Ref. 1, p. 1] It links military pay raises directly to the average of private sector wage increases using the Employment Cost Index (ECI). This increase indicates that legislators recognize the need for parity between military and private sector pay.

In 1947, Congress implemented a common military retirement system for both officers and enlisted personnel. The purpose of the military retirement system has been to attract and retain high quality personnel to serve in the armed forces. The retirement benefits package, available upon retirement and for life to those who qualify, is funded entirely by the government. It has been the foundation of the All-Volunteer Force. For members, retirement benefits have been the reward for extraordinary demands during the course of their careers. Starting on October 1, 1984, Public Law 98-92 established a normal cost funding method for the military retirement system called the military retirement fund (MRF). Under the law, the Department of Defense pays the normal cost of the MRF and the Treasury Department makes payments from revenues for the unfunded liability. [Ref. 3, p. 1]

The dwindling value of military pay and recent reforms in retirement compensation have diminished the value of retired pay significantly. Modifications were made to the original retirement system in 1981 and 1986 in an effort to reduce the cost of

retirement while maintaining force structure and morale. This has resulted in the Department of Defense having three annuity-based retirement systems, eligibility for which is determined by when a member joined.

In the last 25 years, almost all changes affecting military retirement have been targeted at reducing benefits to cut the cost to the government. Many influential legislators believe that additional cutbacks are warranted. These arguments are sometimes linked to the notion that the military should move to restructure its retirement system to resemble the systems now used in many major corporations. These critics argue that individual investments in Individual Retirement Accounts (IRA's), Thrift Savings Plans (TSP's), or 401K plans would provide military members with the same benefits that civilian plans provide, while simultaneously allowing for some savings to the government.

Military advocates and leaders argue that this would negatively affect the Services' ability to recruit and retain the required numbers of high quality personnel for a full career. They argue that the military cannot hire technically qualified personnel from the private sector for necessary technical sub-specialties. Also, the military cannot recruit top managers or commanders from the civilian sector. Instead, these individuals must be developed from the bottom of the hierarchical structure and promoted to upper ranks based on performance. This lack of lateral entry results from the specific nature of military life and the requirement for skills that are not available in the civilian sector. This feature of the military personnel system recognizes that the capacity to perform at higher levels is dependent on experience and training in lower ranking positions. [Ref. 3, p. 178]

Military members entering service prior to 1980 are eligible for retirement benefits under the Final Pay system. Members entering between 1980 and 1986 are eligible to retire under the High Three retirement system. Preliminary studies by RAND have indicated that the forty-percent retirement system enacted by the Military Retirement Reform Act (REDUX) of 1986 is not sufficient to convince service members joining after 1986 to remain in the services for twenty years. In fact, it predicts that REDUX will reduce the probability that an enlisted entrant will stay for 20 years from 10.7 percent to 8.6 percent, a decline of approximately 20 percent. The same model predicts that officers would be approximately 10 percent less likely to stay in for 20 years. However, the RAND model estimates that the retention effect could be offset through incremental pay raises based on the personal discount rate. The personal discount rate is the value that individuals place on receiving benefits now. It reflects the time value of money by implying that benefits are worth more if they are experienced sooner because of the cost of capital. The RAND study assumed a discount rate of 10 percent. [Ref. 4, p. 41]

The awareness of compensation issues by service members is an important consideration for military leaders. Leaders understand that these compensation systems weigh heavily on individual decisions to stay in or leave the service. If the military were to adopt private contributory retirement packages similar to those found in large U.S. companies, senior military leaders may have to consider financial planning programs similar to those that have been used in corporate America.

Currently, there are only a few programs within the Department of Defense designed to assist service members with financial planning. The two most visible

programs available in the Navy are the Transition Assistance Management Program (TAMP) and the Personal Financial Management (PFM) Program.

TAMP is a DoD-wide initiative designed to assist service members with transition from military to civilian life. It includes the Transition Assistance Program (TAP), designed to address social, financial and professional issues associated with the transition from the military to civilian life.

Many military personnel experience significant personal debt, financial hardship, or lack of knowledge regarding investment and saving decisions. To ease these burdens the Navy has developed the PFM Program to meet the needs of all Navy members. For the most part however, this program is only aimed at helping individual members who are in need. If military members become more responsible for their own retirement investment decisions, for example through a 401k program, it is likely that current programs would not be sufficient to provide all members with guidance and instruction.

B. OBJECTIVES

The objective of the thesis is to examine the current military compensation system, focusing on current military retirement packages. Additionally, retirement trends in the private sector will be examined. The thesis will provide an assessment of military retirement reform proposals associated with decreasing resources in the Department of Defense and changes in civilian retirement policies.

C. RESEARCH QUESTION

The primary research question is: Could changes to the current military compensation system provide savings to the Department of Defense, while providing military members the long-term security required to achieve force structure requirements in an all volunteer force?

Secondary questions include the following:

- Should the current military retirement system be changed to reflect retirement trends in the private sector and in the federal civilian retirement system?
- Is the current military pay structure competitive with private sector compensation packages?
- What is the role of financial planning programs within the branches of the Department of Defense to inform service members on retirement and investment decisions?
- Is this role in need of reengineering in light of changes in the structure of financial incentives and options facing service members?
- Do "civilian style" retirement proposals undermine military retirement justification?

D. SCOPE AND LIMITATIONS

This thesis reviews the current military retirement system including the military retirement fund and summarizes trends in private sector retirement funding. It also examines the current pay structure used in DoD and compares it with equivalent civilian paying jobs. It addresses new retirement opportunities that have resulted from recent tax

law changes, and how military members might benefit. Additionally, it reviews the Personal Financial Management (PFM) Programs available to military members to asses their ability to support a contributory retirement system. Specifically, it addresses whether current programs are sufficient to provide all members with adequate guidance and instruction if members become responsible for more of their own retirement decisions. Finally, it indicates how changes to these systems would impact force structure and retention and whether additional savings could be achieved.

E. METHODOLOGY

Data for this thesis was obtained through a comprehensive search of government publications, books, periodicals and Internet sources. Emphasis was on General Accounting Office reports, Employment Benefit Research Institute publications, Department of Defense Office of the Actuary reports, and publications of nonprofit institutions involved in improving policy and decision making in the Department of Defense. Comparisons were made between current military compensation and non-military retirement and pay trends. The majority of information on non-military compensation was gathered from articles, publications, and internet sources explaining savings and investment decisions with regard to civilian style retirement plans. Recent publications and reports on the Federal Employee Retirement System were examined to identify relevant features that could be implemented in a military compensation package.

F. ORGANIZATION OF STUDY

The thesis is divided into seven chapters arranged as follows:

I. **Introduction**

II. **The Military Pay System**

This chapter presents an overview of how the present day pay scale has evolved from the military pay system. It describes the elements of and reasons for the current military pay system, and establishes the argument that regular military compensation (RMC) should be competitive with equivalent civilian packages. This chapter presents the major problems with the present pay system which include:

1.) The lack of incentive within the structure of the pay table.

2.) Differences among services and within fields or rates within a service.

3.) The increasing pay gap between civilian and military personnel.

Additionally, this chapter addresses the complexity and ineffectiveness of the current system of bonus and incentive pays.

III. **The Military Retirement System**

This chapter describes the three retirement plans that are currently funded by the Department of Defense, briefly reviewing the history of all three systems and the reasons for changes in each system. Also, it addresses the funding of the Military Retirement Fund and how Congress attempts to reduce military retirement compensation to achieve deficit reduction. It identifies the reasons for the current retirement system and provide insight into current and anticipated problems within the system.

IV. Pay and Retirement Trends in the Civilian Sector

The different retirement plans used in the private sector and the Federal Employee Retirement System are examined in this chapter. Corporate and public sector employers typically offer workers a defined benefit pension plan based on pay, years of service, and other factors, and a defined contribution plan which makes regular payments to participants' individual accounts, coming from the employer and/or employee, or plans including both plan types. This portion of the thesis examines the advantages and disadvantages of both defined benefit and defined contribution plans.

V. New Opportunities for Individual Retirement Investing

Documented success of the Thrift Savings Plan (TSP) component of the Federal Employment Retirement System (FERS) has encouraged lawmakers to seek additional means to provide for retirement benefits for military retirees, while also cutting entitlement spending. Some suggested alternatives include a TSP for the military, 401(k) or 403 (k) plans similar to those used in private industry, and/or traditional or Roth Individual Retirement Accounts (IRA's). Of course, each option has advantages and disadvantages with regard to cost savings, taxable revenue, and retirement age considerations. Individual preferences among military leaders, lobbyist groups, and the Congress fuel the debate as to which plan(s) would be best.

For individual service members, these decisions affect such areas as taxable income, retirement planning, and career decision making. New tax laws have caused most tax paying citizens, both military and civilian, to re-examine their individual retirement plans for greater future returns.

Finally, this chapter examines the potential consequences of using the above alternative and/or supplemental retirement vehicles with respect to improving recruiting and retention within DoD. Recent remarks by service chiefs and congressional members have identified decreased retirement benefits as probable reasons for lower than average retention within the services.

VI. Financial Planning Programs Within DOD

This chapter focuses on current personal financial management programs within the Department of Defense. It identifies and evaluates financial management services currently offered to military personnel and their dependents.

VII. Conclusions and Recommendations

In light of what has been discussed in chapters one through six, the final chapter discusses possible adjustments to military pay and retirement compensation to reflect trends in FERS and the private sector. It provides recommendations for changes to portions of the current military compensation system to provide a system of compensation based on equality, experience, and level of responsibility. It examines the effects of such adjustments on force structure and recommends solutions to current and prospective problems inherent in the military compensation system.

II. THE MILITARY PAY SYSTEM

A. INTRODUCTION

Unlike pay systems that govern most civilian workers in the private sector, the armed forces use a system based on rank and seniority. Where civilian pay is based mostly on work quantity and performance, military pay is structured on a system geared largely to meeting the needs of the services. The military compensation system consists of an assortment of basic pay, allowances, and benefits. By convention, military pay is broken into four categories: regular military compensation including housing allowances, subsistence allowances, special pays, and fringe benefits. They are commonly referred to as basic pay, quarters and subsistence allowances, bonuses or incentives, and tax advantages.

B. MILITARY PAY SYSTEM COMPONENTS

1. Basic Pay

The largest, most visible component of the military compensation system is basic pay. It is the cash element of military compensation, to which every service member is entitled. Like a civilian salary, it is considered to be compensation for work performed, hours worked, or level of responsibility. Its purpose is to attract and retain high-quality people with the right skills to support national defense objectives. Military basic pay is based on rank and accumulated years of service. [Ref. 5, p. 22] The January 1, 1998 version of the military basic pay rates, originally established in 1949 on recommendations of the Hook Commission, are shown in Table 2-1.

Table 2-1

1998 Military Basic Pay Table (Monthly)

YOS	<2	2	3	4	6	8	10	12	14	16	18	20	22	24	26
RANK															
O-10	$ 7,566	$ 7,832	$ 7,832	$ 7,832	$ 7,832	$ 8,133	$ 8,133	$ 8,584	$ 8,584	$ 9,198	$ 9,198	$ 9,814	$ 9,814	$ 9,814	$ 10,425
O-9	$ 6,706	$ 6,881	$ 7,028	$ 7,028	$ 7,028	$ 7,207	$ 7,207	$ 7,507	$ 7,507	$ 8,133	$ 8,133	$ 8,584	$ 8,584	$ 8,584	$ 9,198
O-8	$ 6,074	$ 6,256	$ 6,404	$ 6,404	$ 6,404	$ 6,881	$ 6,881	$ 7,207	$ 7,207	$ 7,507	$ 7,832	$ 8,133	$ 8,334	$ 8,334	$ 8,334
O-7	$ 5,047	$ 5,390	$ 5,390	$ 5,390	$ 5,632	$ 5,632	$ 5,958	$ 5,958	$ 6,256	$ 6,881	$ 7,355	$ 7,355	$ 7,355	$ 7,355	$ 7,355
O-6	$ 3,740	$ 4,109	$ 4,379	$ 4,379	$ 4,379	$ 4,379	$ 4,379	$ 4,379	$ 4,528	$ 5,244	$ 5,511	$ 5,632	$ 5,958	$ 6,159	$ 6,462
O-5	$ 2,992	$ 3,513	$ 3,756	$ 3,756	$ 3,756	$ 3,756	$ 3,869	$ 4,078	$ 4,351	$ 4,677	$ 4,944	$ 5,095	$ 5,273	$ 5,273	$ 5,273
O-4	$ 2,522	$ 3,071	$ 3,275	$ 3,275	$ 3,336	$ 3,483	$ 3,721	$ 3,930	$ 4,109	$ 4,290	$ 4,408	$ 4,408	$ 4,408	$ 4,408	$ 4,408
O-3	$ 2,343	$ 2,620	$ 2,801	$ 3,099	$ 3,248	$ 3,364	$ 3,546	$ 3,721	$ 3,812	$ 3,812	$ 3,812	$ 3,812	$ 3,812	$ 3,812	$ 3,812
O-2	$ 2,044	$ 2,232	$ 2,681	$ 2,771	$ 2,829	$ 2,829	$ 2,829	$ 2,829	$ 2,829	$ 2,829	$ 2,829	$ 2,829	$ 2,829	$ 2,829	$ 2,829
O-1	$ 1,774	$ 1,847	$ 2,232	$ 2,232	$ 2,232	$ 2,232	$ 2,232	$ 2,232	$ 2,232	$ 2,232	$ 2,232	$ 2,232	$ 2,232	$ 2,232	$ 2,232
O-3E				$ 3,099	$ 3,248	$ 3,364	$ 3,546	$ 3,721	$ 3,869	$ 3,869	$ 3,869	$ 3,869	$ 3,869	$ 3,869	$ 3,869
O-2E				$ 2,771	$ 2,829	$ 2,918	$ 3,071	$ 3,188	$ 3,275	$ 3,275	$ 3,275	$ 3,275	$ 3,275	$ 3,275	$ 3,275
O-1E				$ 2,232	$ 2,384	$ 2,472	$ 2,562	$ 2,651	$ 2,771	$ 2,771	$ 2,771	$ 2,771	$ 2,771	$ 2,771	$ 2,771
W-5												$ 4,075	$ 4,229	$ 4,351	$ 4,535
W-4	$ 2,387	$ 2,562	$ 2,562	$ 2,620	$ 2,739	$ 2,860	$ 2,980	$ 3,188	$ 3,336	$ 3,454	$ 3,546	$ 3,660	$ 3,783	$ 3,901	$ 4,078
W-3	$ 2,170	$ 2,354	$ 2,354	$ 2,384	$ 2,412	$ 2,588	$ 2,739	$ 2,829	$ 2,918	$ 3,006	$ 3,099	$ 3,220	$ 3,336	$ 3,336	$ 3,454
W-2	$ 1,901	$ 2,056	$ 2,056	$ 2,116	$ 2,232	$ 2,354	$ 2,443	$ 2,533	$ 2,620	$ 2,712	$ 2,801	$ 2,889	$ 3,006	$ 3,006	$ 3,006
W-1	$ 1,583	$ 1,815	$ 1,815	$ 1,967	$ 2,056	$ 2,144	$ 2,232	$ 2,324	$ 2,412	$ 2,502	$ 2,588	$ 2,681	$ 2,681	$ 2,681	$ 2,681

YOS	<2	2	3	4	6	8	10	12	14	16	18	20	22	24	26
RANK															
E-9							$ 2,777	$ 2,840	$ 2,904	$ 2,971	$ 3,038	$ 3,096	$ 3,259	$ 3,386	$ 3,576
E-8						$ 2,329	$ 2,396	$ 2,459	$ 2,523	$ 2,590	$ 2,648	$ 2,714	$ 2,873	$ 3,001	$ 3,194
E-7	$ 1,626	$ 1,756	$ 1,820	$ 1,884	$ 1,949	$ 2,011	$ 2,075	$ 2,140	$ 2,236	$ 2,300	$ 2,363	$ 2,394	$ 2,555	$ 2,682	$ 2,873
E-6	$ 1,399	$ 1,525	$ 1,588	$ 1,656	$ 1,718	$ 1,780	$ 1,845	$ 1,940	$ 2,001	$ 2,066	$ 2,097	$ 2,097	$ 2,097	$ 2,097	$ 2,097
E-5	$ 1,228	$ 1,336	$ 1,401	$ 1,462	$ 1,558	$ 1,622	$ 1,686	$ 1,748	$ 1,780	$ 1,780	$ 1,780	$ 1,780	$ 1,780	$ 1,780	$ 1,780
E-4	$ 1,145	$ 1,209	$ 1,280	$ 1,379	$ 1,434	$ 1,434	$ 1,434	$ 1,434	$ 1,434	$ 1,434	$ 1,434	$ 1,434	$ 1,434	$ 1,434	$ 1,434
E-3	$ 1,079	$ 1,138	$ 1,183	$ 1,230	$ 1,230	$ 1,230	$ 1,230	$ 1,230	$ 1,230	$ 1,230	$ 1,230	$ 1,230	$ 1,230	$ 1,230	$ 1,230
E-2	$ 1,038	$ 1,038	$ 1,038	$ 1,038	$ 1,038	$ 1,038	$ 1,038	$ 1,038	$ 1,038	$ 1,038	$ 1,038	$ 1,038	$ 1,038	$ 1,038	$ 1,038
E-1	$ 926	$ 926	$ 926	$ 926	$ 926	$ 926	$ 926	$ 926	$ 926	$ 926	$ 926	$ 926	$ 926	$ 926	$ 926

Source: Defense Finance and Accounting Service.

2. Subsistence and Quarters Allowances

In addition to receiving basic pay, armed service members have traditionally been provided with meals and quarters. If facilities for quarters are not available or individual members elect not to occupy available housing, cash allowances are paid to defray the expenses of "living on the economy". Because subsistence and quarters allowances are not subject to federal income tax, military personnel realize a considerable tax advantage. The magnitude of this tax saving depends, of course, on the size of the allowance, total taxable income, and dependency status.

3. Special Pays

Military personnel may be eligible for special pay. These benefits are used to attract personnel who have particular expertise, to encourage retention of individuals with

certain skills, or as compensation for unusually risky jobs. Special pay is not unique to military personnel. Civilian companies often pay more to overseas employees or those involved in risky jobs. Additionally, they pay more to attract and retain valuable personnel. In 1992, 57 types of special payments were provided to 43 percent of the force and constituted five percent of the total military payroll. [Ref. 5, p. 19] Special and Incentive Pays are shown in Table 2-2.

Table 2-2

7th QRMC Classification of Hazardous Duty and Incentive Pays

Category	Name	Current Amount
Hazardous	Flight Pay	$110/Mo
	Parachute Duty	$110/Mo
Duty	Parachute Duty (high alt.)	$165/Mo
	Demolition Duty	$110/Mo
	Pressure Chamber Duty	$110/Mo
	Flight Deck Duty	$110/Mo
	Toxic Pesticide, Virus, or Bacteria Exposure	$110/Mo
	Handling Toxic Fuels, Propellants, or Chemicals	$110/Mo
	Duty Subject to Hostile Fire or Imminent Danger	$150/Mo
Career	Flight Pay (Crew Member)	$110-$250/Mo
Incentive	Aviation Career Incentive Pay	$125-$650/Mo
	Flight Pay (Air Weapons Controller)	$125-$350/Mo
	Diving Duty	$300/Mo
	Career Sea Pay	$50-$520/Mo
	Sea Pay Premium	$100/Mo
	Special Duty Assignment	$275/Mo
	Enlisted Member Extending Overseas	$80/Mo
	Enlisted Member Assigned to High Priority Unit	$10/Period
	Submarine Duty	$75-$595/Mo
	Foreign Language Proficiency	$100/Mo
	Medical Officers Board Certification Pay	$208-$500/Mo
	Medical Officers Variable Special Pay	$83-$500/Mo
	Dental Officers Board Certification Pay	$166-
	Dental Officers Variable Special Pay	$333.33/Mo
	Optometrists Regular Special Pay	$83-$500/Mo
	Psychologists	$100/Mo

	Non-physician Health Care Providers Veterinarians Reserve Medical Officers Special Pay While on Duty at Certain Places Officers Holding Positions of Unusual Responsibility Assigned to an International Military Headquarters	$2K-$5K/Year $2K-$5K/Year $100/Mo $450/Mo $8-$22.50/Mo $50-$150/Mo Separate scale
Skill Incentive	Selective Reenlistment Bonus Reenlistment Bonus-Ready Reserve Reenlistment Bonus-Selected reserve Nuclear Qualified Enlisted Members Nurse Anesthetics Optometrists Retention Special Pay Aviation Career Officers Extending Active Duty Engineering and Science Career Continuation Acquisition Corps Continuation Bonus Medical Officers Multiyear Retention Bonus Medical Officers Incentive Special Pay Nuclear Qualified Officers Extending Active Duty Nuclear Career Annual Incentive Bonus Dental Officers Additional Special pay Medical Officers Additional Special Pay Enlistment Bonus Army Enlistment Bonus Bonus for Reserve Affiliation Enlistment Bonus-Ready Reserve Enlistment Bonus-Selected Reserve Prior Service Enlistment Bonus Accession Bonus for Registered Nurses Nuclear Career Accession Bonus	$45K $1500 $2500 $15K/Yr $6K/Yr $6K/Yr $12K/Yr $3K 15%BP/Yr $14K/Yr $36K/Yr $12K/Yr $10K/Yr 6K-10K/Yr $15K/Yr $12K/Yr $4K/Yr $50/Mo $1K $2K $1250-$2500 $5K/Yr $8K

Source: Report of the Seventh Quadrennial Review of Military Compensation, Department of Defense, Office of the Assistant Secretary of Defense, 1992.

Associated with these compensation requirements are complex, implementing policies and procedures. Some pay rates are fixed at specific dollar amounts; others are capped. Some are paid monthly, some annually, others as bonuses. Changes to these pays or instituting new entitlements can be a lengthy process because they must be included in the Planning, Programming, and Budget System (PPBS). The time from identifying a requirement for modification to authorization can be up to three years.

Among the problems associated with this 36-month process are that it does not capture when and how the process should be initiated. Also, pay reviews do not occur as scheduled and some pays are neglected for long periods of time ranging from 6 to 10 years. [Ref. 5, p. 100]

4. Other Allowances and Pays

Members of the military are also eligible for allowances intended to off-set special job-related expenses. These include allowances for uniform items, family separation pay, and dislocation allowances. Also, in areas where the cost of living is deemed excessive, personnel are entitled to additional allowances to defray some expenses.

C. RELATIONSHIP BETWEEN BASIC PAY, BASIC MILITARY COMPENSATION, AND REGULAR MILITARY COMPENSATION

The combination of basic pay, allowances, and the tax advantage constitute basic military compensation (BMC). Basic pay is not representative, for comparative purposes, of salaries in the private sector. However, comparisons can be made between basic military compensation or regular military compensation (RMC) and private sector salaries. RMC is equal to BMC plus the average variable housing allowances (VHA) and the additional tax savings VHA provides, since these allowances are not subject to federal tax. Regular Military Compensation (RMC) has been regarded as the basis for comparing military and civilian pay and for calculating pay increases since 1965. Although it has not been used as an official measure since 1974, RMC is still widely regarded as the equivalent of a civilian salary. [Ref. 6, p. A-7]

Basic pay is the only element of military pay upon which retired pay is calculated. Basic pay represents approximately 72 percent of RMC for active duty personnel. Therefore, a 20-year retiree may be eligible for 50 percent of basic pay but only 35 percent of RMC. For 30-year retirees the member is entitled to 75 percent of basic pay but only 56 percent of RMC. These relationships are important in comparing military retired pay to other public or private pension plans. [Ref. 6, p. A-7] The relationship between basic pay and retirement pay will be discussed further in chapter III.

Because military compensation covers such a large variety of issues and policies, this study will not address all aspects of the system. Instead, it will focus on the comparison between basic military and private sector civilian pay, as it constitutes the major portion of Regular Military Compensation (RMC), and is most directly involved in considerations affecting retirement pay.

D. SETTING MILITARY PAY

Prior to 1967, adjustments to military pay were not regular. Separate legislation was needed for each change in basic pay, allowances, or benefits. Increases were usually the result of intense lobbying or increased international tensions. Ten increases in basic pay were approved between the end of World War II and 1967. Of the ten increases in basic pay, four were across the board raises, while the six other increases excluded personnel who had served less than two years. In 1967 "comparability" was introduced into the military pay system. It was designed to provide a means to establish comparable pay rates between military personnel and their civilian counterparts in the private sector. Because of differences between the two pay systems, a special formula was used to convert civilian pay increases into equal increases for military personnel. Later, the

formula was revised to account for increased cash allowances for quarters and subsistence. [Ref. 6, p. 19]

While the military pay system differs in many respects from civilian systems, the two most prominent differences are:

1) The military pays members principally on rank and years of service while civilians emphasize skill level and occupation and link pay directly to work performance.

2) The military provides basic necessities for food, clothing, shelter, and medical care to all members.

Historically, cash allowances are a relatively new concept to the military pay system. Prior to the Japanese attack on Pearl Harbor, special pay, allowances, and bonus and incentive pay were extremely rare. Basic pay constituted the majority of earnings, while food, uniforms, and accommodations were provided to forces that were predominantly single. There was little emphasis on comparing military pay with civilian pay since most jobs in the military had no civilian counterpart.

Additionally, the composition of the forces was different than it is today. Infantrymen and able-bodied seamen made up the majority of the armed services. The hierarchical structure placed emphasis on rank and seniority instead of job skills and proficiency. The reasons for the compensation system were imbedded in the belief that the armed forces were an institution and not an occupation.

The institutional concept seemed reasonable since authority and relationships between superior and subordinate resembled those of disciplined and hierarchical organizations. The major function of the military personnel system required that all

individuals respond immediately and without question; it demanded a discipline not generally associated with civilian occupations. The principle implied that the military establishment placed individuals at the disposal of the institution. The senior personnel in the hierarchy decided what jobs got done, how and when they got done, and who did them without consultation with junior personnel.

The need to motivate individuals to make such a commitment and to foster a sense of dedication considered critical to military effectiveness have long been a concern of senior leadership. Traditionally, money has not been the only incentive; military service, patriotism, and moral indebtedness have been used to create a professional identity in which cohesion, unity of purpose and loyalty are emphasized.

To promote this principle of unity and cohesion, the characteristics that distinguish the military from non-military life have long been emphasized. It should not be surprising then, that the military pay system was structured to reflect those principles. Implicit in this institutional setting is the notion that all members of the same rank who have served the same number of years are making equal contributions to the national defense of the country.

E. PROBLEMS WITH BASIC PAY

1. Structure

Although the basic pay table's fundamental structure has not changed since its establishment in 1949, a number of changes have skewed its effectiveness and equality. These changes have resulted from legislation directing various pay adjustments, pay raises, pay caps, and the creation of new pay grades. Several problems in the current pay table have resulted as a consequence of the changes. First, the distinction between pay of

different grades at similar years of service is too small to provide a clear reward or incentive for promotion. This demonstrates inconsistent relationships between pay differentials, with no reasons for differences. Also, pay raises range from 2.8 to 38.2 percent and longevity raises from 1.3 to 21.8 percent. Finally, in some cases years of service weigh almost as heavily as promotion, possibly weakening incentive for performance. [Ref. 5, p. 5]

Like any compensation system, the fundamental objective of the basic pay system should be to attract and retain quality personnel. Basic pay should also provide recognition for military status. Because rank is a measure of both past performance and current responsibility, it should be the largest source of variation in basic pay. Variations in pay among members must be competitive and efficient. Early experience with the all-volunteer force has demonstrated that significant deviations from these compensation goals undermine morale and personnel readiness. From the DoD and the taxpayer perspective, basic pay should support quality forces of sufficient size. [Ref. 5, pp. 41-43]

The primary requirement of military basic pay is that it should establish appropriate pay differentials for military rank and status. Also, since the military's closed personnel system only hires at the lowest level of the organization, basic pay should recognize the key career retention decisions. Basic pay compensation should be consistent with key service-length characteristics of obligated service requirements.

A RAND study in 1993 emphasized that a closed hierarchical organization must design compensation policies that encourage individuals to: (1) Work hard and effectively; (2) self-sort into ranks to which they are best suited; and (3) leave when it is

in the organization's best interest. Specifically, a skewed pay structure is required to motivate effort and influence self-sorting. [Ref. 3, p. 189]

This study examined the structure of the U.S. military compensation system to determine whether or not it meets these criteria. Figure 2.1 shows the average annual increase in basic pay for promotion to the rank shown based on the 1998 pay tables.

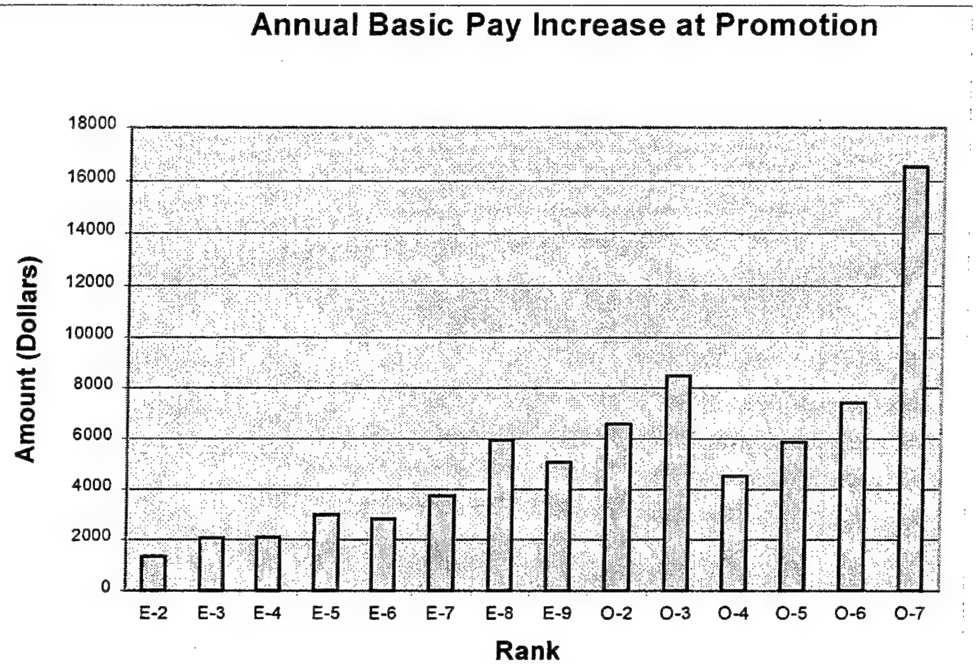

Figure 2.1

Source: Adapted from Beth J. Asch and John T. Warner, Professionals on the Front Line: Two Decades of the All-Volunteer Force, Brassey's, 1996.

Examination of Figure 2-1 shows that average annual pay increases due to promotion are small and relatively constant ($1346 to $2972) through the first six enlisted ranks and increase in the last three enlisted grades ($3728 to $5939). Of particular interest is that the average increase from E-7 to E-8 is greater than the increase from E-8 to E-9. For officers the average promotion increase to O-4 is considerably less than the increase to O-3 ($4500 verses $8567). On average the promotion increment

increases from O-6 to O-7 is significantly greater ($16,550) than any other promotion increase, but with regards to providing promotion incentive is most likely not as significant.

2. Pay Tables

One issue affecting military compensation is whether current pay tables should be converted to reflect time in grade instead of time in service. The argument is that better performance is reflected in faster promotion and that performance should be rewarded in the pay system. Currently, using time in service as the measure for increased pay, individuals who follow the fast track of early promotions have no significant compensation advantage over an average member after the average member is promoted to the same rank.

However, like the time in service format, the time in grade theory has flaws of its own. First, the time in grade format overlooks the reasons why some individuals may be promoted faster than others. For example, within services and ratings, faster promotion generally recognizes superior performance. However, there are at least two specific incidents where this theory does not hold. First, there are significant differences within and among services in the amount of time it takes to reach a given rank. For example, it takes longer for an officer in the Marine Corps to reach O-3 than it does in the Navy. Thus the time in grade format would magnify this inter-service pay differential by giving a permanent pay advantage to individuals promoted faster, even though the promotion is not the result of individual merit. [Ref. 5, p. 43]

Second, there are significant differences in promotion among different skill levels or rates within the same service. For, example it takes longer to reach the grade of E-5 in

the Navy's Master-at-Arms skill than it does as an Intelligence Specialist. Such situations arise because promotions are based on vacancies in specific ratings. If retention is high in one skill area relative to another, promotions in the high retention category will be slower. [Ref. 5, p. 43]

In the military's closed personnel system, all personnel start at the bottom and rise in rank one step at a time. The way in which individuals ascend is determined by policies, laws, and force structure, which are beyond individual control. Although it can be argued that a time in grade format would motivate performance, it may be perceived as inequitable within the military. Such perceived inequities would likely undermine the motivation of pay based on promotion.

The 7th Quadrennial Review of Military Compensation found that time in service is superior in format to time in grade because the time in service format offers greater rewards for performance. Also, in the current format, there are places where pay raises can be shifted to account for increases in rank relative to time in service. The review concluded that the time in service format tends to protect the taxpayer during times of faster promotions and to protect service members during slower promotions. [Ref. 5, p. 44]

3. Pay Gap

Of all the identified problems with basic pay, the most prominent and visible is the decline of military pay relative to civilian wage movement. Not since 1982 have military and private sector pay been considered comparable. Since then, Congress has capped military pay raises at one-half percent below the average American's pay increase in 11 of the past 15 years. The cumulative effect of this action is that the pay gap now exceeds 13 percent and will continue to widen. Rep. Steven Buyer, Chairman of The

House National Security Personnel Subcommittee and Sen. Dirk Kempthorne, Chairman of the Senate Armed Services Personnel Subcommittee, feel that the gap will increase to over 15 percent by 2001 if nothing is done. Members of Congress are favoring a change in the way military pay raises are determined. The proposal is to eliminate the pay link, contained in Title 37 of the U.S. Code, which would match military pay raises with increases in the private sector. Defense and service officials support the idea of changing the current link between civil service pay and military pay and believe recruitment and retention would improve from such a measure. [Ref. 7, p. 1]

The FY 1998 DoD Authorization Act included a pay increase of 2.8 percent, which equals pay raises received by the average private sector American using the Bureau of Labor Statistics Employment Cost Index. This pay increase is a sign that the Administration and Congress recognize the value of parity between military and private sector pay.

F. COMPARING MILITARY AND CIVILIAN WAGE GROWTH

1. Employment Cost Index

The pay gap is defined as the percentage difference between military and civilian pay growth. The index currently used to measure civilian pay growth is the Employment Cost Index (ECI), which identifies pay growth in the civilian labor force at large. The ECI is a fixed-base weight index which shows how much the cost of a fixed bundle of labor increases over time. It was selected by Congress in the Federal Employees Pay Comparability Act (FEPCA) of 1990 to link federal employees' pay to private sector wages. The index, formed from census data, represents approximately 90 percent of the

civilian labor force (excluding self-employed individuals) and is updated every ten years from Census data. [Ref. 5, pp. 111-112]

2. Defense Employment Cost Index

Previous studies by RAND and the Quadrennial Review of Military Compensation (QRMC) have developed and recommended using a measure called the Defense Employment Cost Index (DECI). The DECI is a measure of civilian pay growth for the subset of civilian workers whose composition by age, education, occupation, gender, and race are similar to those of active duty military personnel. [Ref. 8, p. ix] The DECI is a variable-base weight index that changes from year to year proportionally with changes in the composition of active duty personnel. Data on military personnel for the DECI comes from the Defense Manpower Data Center's (DMDC) records on active duty personnel. The DECI formula is determined by that year's active duty personnel with respect to gender, education, occupation, age, and race. The civilian wage data come from the Current Population Survey (CPS). The percentage change in DECI from year to year indicates increases in military pay necessary to keep pace, on average, with the civilian wage growth of people like those currently on active duty. [Ref. 8, pp.3-4]

Compared to those in the general civilian work force, active duty personnel are younger and more likely to have completed at least high school. Therefore, their occupational grouping differs. Also, military members are predominately male and tend to have larger numbers of minority members in proportion to civilian society. These differences are significant because civilian wage changes are not the same for every group. In fact, they commonly differ by age, education, occupation, and gender. The DECI attempts to account for all these differences, but the ECI only considers occupation.

The DECI pay gap was under 4 percent until 1988. In 1990 it was figured to be approximately 6 percent, and has fallen since. In 1992 the DECI-based pay gap was 0.1 percent. However, most policymakers agree that even though the DECI accurately reflects the average civilian wage growth that military personnel would expect if they were civilian workers, it does not distinguish between differential wage growth by group. In fact, it shows that there is no pay gap for junior enlisted men with a high school education. Rather, this group has achieved a 7 percent greater basic pay increase than civilians in the same group. Senior enlisted men have not done as well as junior enlisted, but have still managed a relative wage growth 2.7 percent greater than civilian counterparts under DECI. The pattern changes for enlisted woman and officers. The pay gaps for all groups are summarized in Table 2-3. Table 2-3 shows especially large pay gaps for female officers in relation to their civilian counterparts. [Ref. 8, p. 17]

Table 2-3

Summary of DECI Pay Gap

Group	Pay Gap under DECI
Enlisted Junior, male, high school only	+7.3 percent (no gap)
Enlisted Senior, male, high school only	+2.7 percent (no gap)
Enlisted Junior, female, high school only	-7.4 percent
Enlisted Senior, female, high school only	-7.2 percent
Officer, Junior, male, college	-16.1 percent
Officer, Senior, male, college	-10.9 percent
Officer, Junior, female, college	-20.0 percent
Officer, Senior, female, college	-23.4 percent

Source: Adapted from: Hosek, James R., Christine E. Peterson, and Joanna Z. Heilbrunn, Military Pay Gaps and Caps, RAND, 1994.

Because the FEPCA specifically identifies the ECI as the index on which to base civil service and military pay adjustments, the DECI has little to no impact on defense manpower considerations. [Ref. 8, pp. 19-20]

G. PAY GAP HISTORY

The 7th Quadrennial Review of Military Compensation in 1992 found that since 1981, civilian wage growth, as measured by the ECI, has outstripped Military pay raises by 12 percent. Yet, the 1980's proved to be a remarkable decade with regard to successful retention within the military. This paradox has led policymakers to question the effectiveness of the ECI as a comparative measure between civilian and military wages. The explanation for the pay paradox was that the ECI did not really capture the civilian wage growth relevant to members and potential members of the military. [Ref. 5, p. 113] A more likely explanation would be that it takes time for changes in such a system to have an effect on recruiting and retention. Most recent comparisons on military and civilian pay have used 1982 as the base year for computations. The reason for this is that 1982 is considered to be the last year that the pay gap was considered to be negligible. [Ref. 8, p. 5]

Following severe recruiting and retention problems in the 1970's, military pay raises in 1981 and 1982 were intended to restore military/civilian pay to the overall relationship prevailing at the beginning of the All-Volunteer Force in 1972. Pay adjustments in 1972 were thought adequate in establishing comparability between civilian and military pay by the Gates Commission.

However, in 1981 the service chiefs were able to get a 14.3 percent pay raise included in the defense budget to close the gap between salaries in the private sector and

the military. At that time the estimated pay gap was about 8 percent, but the services were having problems in recruiting and retention. [Ref. 9, p. 3] The Defense Department had considered spreading the pay raise over two years, but members of Congress encouraged them to ask for it all at once. The combined increases in 1981-82 raised military pay by 25 percent and quelled the recruiting and retention problems. The improvements in recruit quality and retention that followed in subsequent years proved the compensation increase effective. [Ref. 8, p. 5]

H. ANNUAL PAY ADJUSTMENT

Keeping military pay attractive relative to civilian incomes has been the intent of Congress since the military pay statute of 1967. That statute intended to "Insure that uniformed services personnel will, in the future, be given increases in the level of their compensation comparable to that enjoyed by their civilian contemporaries" [Ref. 10, p. 3]. While individuals decide to continue a military career based on more than just pay, pay is usually important. It is clear that military pay is most effective as a recruitment and retention tool if maintained over time at a level comparable to civilian employment opportunities. In most cases, poor recruiting and retention numbers signify the need for pay adjustments.

However, waiting for these signals prior to adjusting pay can be detrimental because of the costs associated with recruiting and training replacements. The decade leading up to 1992 had been one in which the armed forces had remarkable success in maintaining a high quality force.

Since 1992 a remarkably different picture has been presented. In recent articles service chiefs have expressed increasing concerns with regard to retention and recruiting. They have attributed problems in these areas to a good economy, low propensity among American youth to enlist in the Armed Services, and increased deployment and operational commitments due to contingency operations.

An *Army Times* article published 1 June 1998 stated that the Chairman of the Joint Chiefs of Staff was urging top military leaders to push for better pay. It stated that at an unusual "24 star meeting" on May 19, military leaders were briefed on the size, extent, and long-term cost of letting military pay fall behind civilian compensation. The article indicated that "the meeting could mark a turning point in the debate over military pay and readiness." [Ref. 9, p. 3] Until recently the service chiefs have been reluctant to acknowledge retention and recruiting problems. Some members of Congress have become frustrated that the services will not ask for more money. [Ref. 11, p. 3] It would be difficult, however, at a time of flat defense budgets and low inflation to close the pay gap with a single raise like the one approved under the Reagan administration in 1981. Also, military leaders may assume that budgeting for such an increase is a zero sum game and that sources for any proposed increases must be identified. The estimated cost to close the gap is about $5.2 billion annually. [Ref. 9, p. 3] Perhaps more appealing is the notion of closing the gap three or four percentage points a year. Though this may be a less costly alternative to closing the gap with a single increase, it would most likely fail to address the negative effect on recruiting and retention now in effect.

There are critics who argue that the pay gap is myth and that service members are in fact paid substantially more than their civilian counterparts. They stress that "lobbyists

have pushed a bogus pay gap for so long that it has been accepted as fact by politicians, reporters and military personnel." [Ref. 12, p. 31] They regard the Employment Cost Index as an ineffective measurement of comparison between private sector and military wage growth, because basic pay, while the bulk of the military pay, constitutes only part of total military compensation. They identify longevity pay raises, health care, commissary, and retirement benefits as portions of military compensation not considered when making wage growth comparisons between the military pay and the ECI. Finally, comparing military wage increases to civilian wage growth using the ECI ignores reenlistment bonuses, specials pays, and leave benefits that are common to many service members. [Ref. 12, p. 31]

When comparing military pay to civilian pay, certain fringe benefits and advantages are inevitably left out. A better measure of differences between military and civilian compensation might be civilian equivalency rates. Civilian equivalency rates are currently used by the Navy Working Capital Fund activities to reimburse Navy and Marine Corps military personnel pay appropriations for the price of military personnel working in these activities. The rate is derived from all costs required to compensate active duty personnel in Navy Working Capital Fund activities including base pay, allowances, special pay, bonuses and incentives, healthcare, and other benefits. The rates are consistent with percentage figures presented earlier with respect to RMC (i.e., average RMC is approximately equal to the Civilian Equivalency Rate times 72%). Table 2-4 shows the budgeted civilian equivalency rates for FY 1998. It reflects budgeted values for FY 1998 and 1999. The FY 2000 and FY 2001 budget years incorporate revised actual data with budgeted pay inflation. [Ref. 13, p. 4)

Table 2-4

Civilian Equivalency Rates

	FY 1998	FY 1999	FY 2000	FY 2001
O-9	157,504	161,204	162,467	167,341
O-8	144,765	149,625	154,156	158,781
O-7	131,749	136,220	140,374	144,585
O-6	106,632	110,239	113,580	116,988
O-5	90,638	93,720	96,560	99,457
O-4	76,702	79,310	81,712	84,163
O-3	64,503	66,696	68,716	70,777
O-2	53,817	55,647	57,335	59,055
O-1	44,481	45,994	47,386	48,808
E-9	40,269	41,641	42,903	44,190
E-8	36,359	37,597	38,735	39,897
E-7	32,721	33,834	34,857	35,903
E-6	29,358	30,352	31,275	32,213
E-5	29,358	30,352	31,275	32,213
E-4	26,237	27,133	27,954	28,793
E-3	23,377	24,166	24,899	25,646
E-2	20,734	21,440	22,092	22,755
E-1	19,048	19,696	20,293	20,902

Source: Budget Guidance Memorandum 98-1E, "Guidance for the Preparation and Submission of FY 2000 and 2001 Budget Estimates for the DON Budget Review."

III. THE MILTARY RETIREMENT SYSTEM

A. INTRODUCTION

The Military Retirement Program is one of the most important benefits associated with a career in the military. It applies to members of the Army, Navy, Marine Corps, and Air Force. The current system is a noncontributory, defined-benefit plan dating back to 1947, when Congress implemented a common system for both officer and enlisted personnel. Standardized retirement laws for all services were brought about by the Army and Air Force Vitalization Act of 1948. The act established 20 years as the minimum requirement for voluntary retirement. Modifications by the Defense Officer Personnel Act of 1981 and the Military Retirement Reform Act of 1986 were aimed at reducing the cost of funding military retirement. [Ref. 6, p. B-4] However, the system still provides an immediate lifetime annuity to those who separate with 20 or more years of service, but no benefits to those who leave with fewer than 20 years.

Until 1984, the Pentagon had funded retirement pay on a "pay as you go" basis where retirement costs were simply budgeted for annually. [Ref. 14, p. xi] The Department of Defense Authorization Act of 1984 established a new method of funding for military retirement in 1984. Under the new law, a normal cost funding method for the military retirement system took effect on October 1, 1984. It required that DoD pay the normal cost of the system and the Treasury make payments from general revenues to amortize the unfunded liability. [Ref. 6, p. 1] The normal cost of the fund is the amount required to fund future retirement benefits for personnel currently on active duty or in reserve components of DoD. The cost is equal to a percentage of basic pay and differs

for active and reserve forces, but within those categories it is identical for all services. [Ref. 14, p. xii]

The old system had worked well with regard to paying retirees, but policymakers were not accountable for decisions regarding force size and future outlays. Congress insisted that DoD switch to an accrual system in which the services account for future retirement obligations by transferring into the Military Retirement Fund (MRF) cash necessary to fund future retirement benefits for individuals on active duty each fiscal year.

The present retirement system consists of three sets of noncontributory retirement provisions, determined by each member's service entry date. Members are eligible to retire after 20 years of service, and with the exception of flag officers and special cases, must retire on or before 30 years of service.

Some in Congress assert that the current military retirement system is too generous compared to civilian retirement plans. They claim that any plan that pays a substantial annuity, with annual cost of living adjustments, to people who can retire at such an early age is too expensive and should conform more with civilian retirement plans. Military leaders and interest groups have fought successfully to preserve the current system by stressing that conditions of military service are different than those of civilian jobs, and a unique system is required to maintain a sufficient defense force to reflect these unique service conditions.

B. RETIREMENT SYSTEM COMPONENTS

Most attention has focused on retired pay for non-disability active duty personnel since it makes up the largest portion of retirement compensation cost and it affects the

largest number of people. However, efforts at changing the military retirement system have not been limited to the key non-disability portion. Dissatisfaction with survivor benefits, evidenced by falling participation rates, led to congressional revision of existing law in 1980. In 1998 lawmakers expressed concern that the subsidy for the Survivor Benefit Plan (SBP) had fallen to 26 percent, well below the 40 percent objective set by the Congress. The Committee on National Security stated that "the committee is committed to exploring options that will increase the subsidy and make the program more attractive to military retirees." [Ref. 15, p. 306] Also, reform proposals have been targeted at reserve retirement spending and separation pay to individuals who leave involuntarily.

Non-disability retirement is often criticized because beneficiaries receive payments at a much earlier age than their civilian peers. Also, disability, reserve, and survivor benefit costs are determined by non-disability retirement benefits. [Ref. 16, p. 2] For these reasons this thesis focuses primarily on non-disability retirement pay when referring to the military retirement system. In FY 1996, 1.29 million non-disability retirees from active duty received a total of $23.86 billion. This constituted 82 percent of retirement system outlays. [Ref. 6, p. A-2] A summary of Military Retirement System outlays for FY 96 is provided in Table 3-1.

Table 3-1

Summary of FY96 Retirement Outlays

Retirement System Component	Number of Retirees	Dollar Amount
Non-Disability Retirement	1.29 Million	$23.86 Billion
Disability Retirement	119,000	$1.49 Billion
Reserve Retirement	216,000	$2.11 Billion
Survivor Benefits	223,000	$1.51 Billion
Temporary Early Retirement Authority	42,000	$40 Million
Total	1.89 Million	$29.01 Billion

Source: Adapted from Valuation of the Military Retirement System, Department of Defense Office of the Actuary, 1996.

C. OBJECTIVES OF THE MILITARY RETIREMENT SYSTEM

Most advocates agree that the main purpose of the retirement system, like other compensation, is to attract and retain quality people. They stress that the system must compete with the private sector for quality personnel at a reasonable cost to the taxpayer. Also, the military retirement system must be a flexible tool for managing armed forces manpower requirements.

The *Valuation of the Military Retirement System* states that there are five principal motivations guiding the military retirement system. First, it must ensure that service in the armed forces is competitive with other alternatives. It must also provide promotion opportunities to young and able members. Because of the sacrifices made by military careerists, some measure of economic security must be made available to those who serve a full career. Additionally, to fulfill the Defense Department's role of defending the American people, military leaders can use the retirement system to ensure experienced personnel are available for recall in time of war or national emergency. Finally, during

times of decreasing budgets and deficit reduction, leaders must ensure that system costs are reasonable to the taxpayer. [Ref. 6, p. B-2]

For the most part, these are the same principles included in the formal definition used by the 5th Quadrennial Review of Military Compensation in 1984. Despite this formal definition, the retirement system is widely viewed strictly as a force management tool. The combination of 20-year vesting and the payment of an immediate annuity after 20 years of service implies a system designed to promote a young force and ensure experienced personnel advance to higher ranks until they are encouraged or forced to retire. Vesting refers to the amount or time that a worker must remain with an employer before becoming entitled to a portion of retirement benefits. The current military retirement system generally serves as a strong retention tool after a certain career point, convincing personnel to stay at least 20 years. 1996 retention data show that about 10 to 15 percent of enlisted personnel and 30 to 40 percent of officers become eligible for retirement. Of the percentage of personnel who reach 10 years of service, about 70 percent of enlisted and 90 percent of officers become retirement eligible. [Ref. 17, p. 5]

D. CURRENT MILITARY RETIREMENT BENEFITS

The current Military Retirement System has undergone significant changes since its inception. What started as a means to convince service members to commit to a career of service to our nation's defense has evolved into a complex system of sub-systems that we have today. Recent changes are the result of fiscal pressures from deficit reduction and attempts to maintain balance between military retirement benefits and those available in the private sector. Manpower personnel would argue that changes to the system have

been used to achieve manpower levels consistent with national security. The three systems currently used are discussed below.

1. Final Basic Pay

Members entering military service prior to September 8, 1980 are eligible to retire after 20 years of service at 50 percent of their final basic pay up to a maximum of 75 percent of basic pay with 30 years of service. After retirement, the annual stipend is adjusted annually to reflect inflation, based on the Consumer Price Index (CPI). This retirement system is commonly referred to as Final Basic Pay. [Ref. 6, p. A-2]

2. High Three

The Defense Officer Personnel Act of 1981 placed members who had entered service between September 8, 1980 and July 31, 1986 in the High Three system. They are eligible to retire after 20 years of service, but the amount of their initial retired pay will be equal to 50 percent of the average of their three highest years of basic pay. The averaging lowers retirement pay by approximately 6 percent annually from the Final Basic Pay System. [Ref. 6, p. A-2]

3. REDUX

The Department of Defense Authorization Act of 1984 required the military to pay the normal cost of the fund. On June 30, 1986 President Reagan signed the Military Retirement Reform Act of 1986. The change to the retirement system was the result of action by Congress to reduce the non-disability retirement accrual costs of the military-retirement fund by $2.9 billion in fiscal year 1986. [Ref. 19, p. 521] Congress changed the system in 1986 primarily to reduce the system's cost and increase the incentive for personnel to complete 30 years of service. [Ref. 6, p. A-2]

For members entering after July 31, 1986, the amount of their initial retired pay is based on the average of their three highest years of basic pay. However, the multiplier for 20 years of service is only 40 percent, with a 3.5 percent per year increase up to 75 percent at 30 years of service. Additionally, inflation offsets are capped at one percent below the CPI. This erodes the purchasing power of retirement until age 62, when a one-time restoration of the value of the pension occurs. This plan is commonly referred to as REDUX. [Ref. 6, p. A-2]

The Military Retirement Reform Act of 1986 sparked a lot of controversy. Changing the retirement system was opposed by the Pentagon, and fears over how the new system would affect readiness surfaced during negotiations. However, almost as soon as the bill became law, the furor surrounding it died, primarily because those already in uniform at that time were not affected by it.

Appendix A compares the three retirement systems for an O-5 and E-7, both with 20 years of service. Assumptions are for a typical O-5 at age 42 and E-7 at age 39. It also assumes a 3.5 percent annual inflation adjustment for the Final Pay and High Three systems and a 2.5 percent adjustment for REDUX. At age 62, REDUX retirees catch up to High 3 retirees for one year, but fall behind again because of lower cost-of-living adjustments.

E. NET PRESENT VALUE OF THE MILITARY RETIREMENT SYSTEM

From a policymaker's view point, compensation, including military retirement, is necessary as a force management tool. The prospect of twenty-year retirement is a delayed incentive that induces personnel to invest in military-specific job skills, accept

hazardous assignments, and generally exert work effort early in their careers and gradually promote to positions of higher authority and responsibility. For such a system to be effective it must offer incentive for quality individuals to stay the path and complete the minimum twenty-year requirement.

With the first members eligible to retire under the REDUX system now more than half way through their careers, there is concern among policymakers with regard to retention rates, and the fact that benefits under REDUX may not be sufficient when compared with the High-Three and Final Pay systems. The changes made under the Military Retirement Reform Act of 1986 may have underestimated the effect that such changes would have on retaining quality personnel. An April 27, 1998 *Navy Times Article* stated, "If one of the purposes of the military retirement system is to encourage experienced, well-trained troops to serve for at least 20 years, the 40-percent plan is a flop." [Ref. 19, p. 12] The article addresses the fact that more experienced personnel are getting out of the service, taking with them years of experience and training that can't be replaced. It states that,

> Some feel cheated and can't fathom why their long-term service should have less value than someone who came on board just a few months or years before they did. Many others are deciding, or are on the verge of deciding, that the lure of a scaled-back retirement check simply is not worth the hassles of remaining in an increasingly busy, deployed, and understaffed Navy. [Ref. 19, p. 12]

Even service chiefs of staff have testified before the House of Representatives Committee on National Security that the decision more than a decade ago to decrease retirement benefits is hurting retention and needs to be addressed. [Ref. 15, p. 305] It's becoming clear that REDUX is not nearly as effective at convincing members to complete a career as the 50 percent systems used to be. [Ref. 19, p. 12]

There are many considerations service members make when deciding whether to stay or leave the service. Part of this process involves weighing the advantages and disadvantages associated with a full career. Specifically, individuals must decide whether the benefit of retirement is sufficient to provide an acceptable lifestyle for the member and his family in the future. Even more compelling is the view of the service members as to whether he or she could do better elsewhere. If the REDUX system erodes individuals' confidence in future retirement benefits their retention decisions could be affected.

Retired Air Force Colonel Steven Strobridge, the Deputy Director of Government Relations for the Retired Officers Association, argues that the only true way to compare the current retirement plans is using the present value approach. [Ref. 19, p. 14] Net present value represents the discounted monetary value of net benefits, i.e., it accounts for the erosion in the buying power of a benefit that occurs due to inflation. Net present value is computed by discounting future benefits using an appropriate discount rate. Discounting future benefits reflects the time value of money. The higher the discount rate, the lower is the present value of future cash flows. This implies that benefits are worth more if they are experienced sooner. [Ref. 20, p. 3]

The proper discount rate to use depends on whether the benefits are measured in real or nominal terms. A real discount rate that has been adjusted to eliminate the effect of inflation should be used to discount constant-dollar benefits and costs. The real discount rate is approximated by subtracting the expected inflation rate from the nominal interest rate. [Ref. 20, p. 8]

When making decisions regarding retirement, individuals are most likely to discount future benefits to reflect the value in present day dollars. Individuals usually discount future benefits at a high rate. Individuals tend to measure opportunity costs based on interest rates. Because military retirement is considered a long-term benefit, most individuals would tend to favor the use of long-term interest rates in measuring the opportunity costs associated with a full career in the military.

The net present value of future cash flows based on data from Appendix A is shown in Table 3-2 for the three retirement systems. Appendix A compares projected annual cash flows for typical O-5's and E-7's with 20 years of service under each retirement plan. Table 3-2 also shows percentage differences for each system.

Table 3-2

Net Present Value Comparison of Military Retirement for O-5 and E-7

	O-5			E-7		
	FINAL PAY	HIGH THREE	REDUX	FINAL PAY	HIGH THREE	REDUX
NPV (10)	$414,918	$379,913	$298,973	$193,758	$182,054	$140,641
%	100	92	72	100	94	73
NPV (7)	$617,331	$565,249	$452,636	$286,457	$269,153	$211,056
%	100	92	73	100	94	74

The net present value analysis shows that the REDUX system appears to be approximately 26 to 28 percent less generous than the Final Pay system and 19 to 21 percent less generous than the High Three system. The comparison assumes a 3 percent inflation rate and discount rates of 10 and 7 percent respectively. The 10 percent discount rate reflects a conservative assumption based on the 12 percent average return of the S&P 500 index of stocks since 1960 and the Dow Jones Industrial Average of 11.43 percent (1973-1991). [Ref. 21, pp. 61-63] The 7 percent discount rate reflects the 30-year average nominal interest rate on 30-year treasury notes and bonds. [Ref. 20, Appendix C]

Table 3-2 illustrates that the REDUX system is less generous than the other retirement systems regardless of whether individual members discount future benefits at a historical or conservative rate.

For those members who entered active duty after August 1, 1986 and are now reaching key retention years, REDUX creates an incentive to leave the service, since the return from staying has been reduced (a loss in future retirement). While the perceived loss varies by individual members, across a wide range of reasonable discount rate assumptions, the loss is significant. In fact, the loss is equal to or greater than current retention incentives such as pilot bonus and selective reenlistment bonuses. For example, assuming a 10 percent personal discount rate and 3 percent annual adjustment for inflation, the net present value of future payments from aviation career incentive pay for an O-5 aviator with 20 years of service is $56, 886.36. Also, the maximum selective reenlistment bonus paid to eligible enlisted members is $45,000. Neither figure offsets the reductions in retirement benefits resulting from REDUX as illustrated in Table 3-2. If REDUX causes members to think about retirement benefits with greater uncertainty, retention could be impacted negatively.

F. THE MILITARY RETIREMENT FUND

1. Purpose

The Department of Defense Authorization Act of 1984 established the "Department of Defense Military Retirement Fund." It also established an independent three-member DoD Retirement Board of Actuaries, appointed by the President. The Board of Actuaries is required to review valuations of the retirement system, determine the method of amortizing unfunded liabilities, to report annually to the Secretary of

Defense, and to report to the President and the Congress on the fund's status at least every four years. [Ref. 6, p. 1] The fund is to be "used for the accumulation of funds in order to finance on an actuarially sound basis liabilities of the Department of Defense under military retirement and survivor benefit programs." [Ref. 18, p. 799]

2. Accrual Funding Method

The establishment of the accrual method of funding required that each service transfer into the fund each year dollars to pay for future retirement benefits. The amount paid into the fund represents a percentage of basic pay paid to all service members. It is paid from DOD's military personnel account and is based on actuarial and economic assumptions. [Ref. 16, p. 11] Actuarial assumptions include such things as the rates of retirement and the longevity of retirees. Economic factors include assumptions about interest rates, pay raises, and cost of living adjustments. The percentage differs for active duty and reserve personnel, but within those categories it is identical for all services. [Ref. 14, p. xiv] In FY 95, fund transfers equaled 35.5 percent of the active duty basic pay and 10.5 percent of reserve pay. [Ref. 14, p. xii]

Annually, the Treasury Department transfers an amount equal to one year's amortized payment for the pre-1984 liability, adjusted for changes in assumptions and experience. The money in the fund is invested in government securities and draws interest. Transfers into the fund by the Treasury and its investment transactions represent intra-governmental transfers and do not count as outlays to the federal government. [Ref. 14, p. 24] Hence, actuarial gains that reduce Treasury's payments into the fund have no effect on the deficit. They do, however, represent an outlay to DoD, because they are budgeted for in the annual defense appropriation for military personnel. [Ref. 14, p. xii]

If the Department of Defense were to share in future gains and reduce its payment into the fund, spending the difference on other priorities such as modernization, manpower, or readiness, the deficit would rise even though the DoD topline and DoD outlays would not change. Actuarial losses would have the opposite effect, reducing funds available to the Department for other purposes with a fixed topline. Any proposal to allow DoD to share in gains without agreeing to a lower topline from actuarial losses will, therefore, most likely be met with resistance by the administration and Congress. Historically, assumptions used by the Board of Actuaries have resulted in gains more frequently than losses. In fact, gains have occurred in every year, resulting in the transfer of tens of billions of dollars from the Defense Department to the Treasury. [Ref. 14, p. 25]

In essence, the establishment of the military retirement fund allowed policymakers, budget and manpower analysts, and Congress to realize immediately the long-term consequences of policy changes affecting personnel and retirement. The FY96 normal cost as a percentage of basic pay for full and part time personnel is shown in Table 3-3.

Table 3-3

Normal Cost as a Percent of Basic Pay

Full Time (Active duty)	**Final Pay**	**High-3**	**Redux**	**Weighted**
Non-disability benefits	34.8%	31.3%	26.4%	29%
Disability benefits	1.1	1.0	.9	1.0
Survivor Benefits	.8	.8	.6	.7
Total	36.7%	33.0%	28.0%	30.7%
Part Time (Reserve)	**Final Pay**	**High-3**	**Redux**	**Weighted**
Non-disability benefits	9.4%	8.9%	8.1%	8.5%
Disability benefits	.4	0.0	0.0	0.0
Survivor benefits	0.0	.4%	.3%	.3
Total	9.8%	9.3%	8.4%	8.8%

Source: Valuation of the Military Retirement System, Department of Defense Office of the Actuary, 1996.

Changes from year to year in the normal cost as a percentage of basic pay are attributable to changes in force structure from downsizing and reductions in the Final Pay system costs due to a decrease in the number of retirees due to mortality. Therefore, the normal cost of the MRF to DoD constantly fluctuates from year to year. Because recent trends have been toward reducing retirement benefits, trend analysis should reveal a decrease in future costs.

3. Unfunded Liability

When the fund was established, the unfunded costs of retirement benefits already accrued became apparent. The unfunded liability as of September 30, 1984 was $528.7 billion. The unfunded liability is amortized over 50 years with payments made each year to the Military Retirement Fund from the Treasury Department. Changes to the amount of the unfunded liability can occur due to changes in economic assumptions, changes in retired pay, or differences between expected accounting gains or losses in the fund. [Ref.

17, p. 12] The value of the unfunded liability as of September 30, 1996 was $490.4 billion. This was 6.3 percent lower than the expected unfunded liability of $523.1 billion. The initial unfunded liability is expected to be fully amortized in 2033. [Ref. 6, pp. 12-13]

4. Department of Defense Accrual Cost

The military retirement accrual cost for active duty personnel was $11 billion in fiscal year 1996. DoD paid this amount into the Military Retirement Fund for future obligations generated by current personnel. Trends in the DoD budget show that the normal cost of the MRF as a percentage of basic pay has declined sharply since the inception of accrual accounting in 1985. This decline is largely due to service members being under less generous retirement plans and changes to the actuarial assumptions based on experience. However, military retirement normal costs remain a significant portion of the DoD budget. They comprised approximately 16 percent of DoD's total $70.7 billion personnel costs in 1995. [Ref. 17, p. 19]

The Department of the Navy Biennial Budget Estimates for 1998 indicate a retired pay accrual cost of $2.568 billion. The budget estimates call for a total of $8.429 billion in basic pay for the Department of the Navy in 1998. [Ref. 13, p. 13] These figures indicate the Department of the Navy normal cost as a percentage of basic pay to be 30.47%.

5. Military Retirement Fund Problems

There are two perceived problems with current fund operations. First, if the fund experiences an actuarial gain, only the Treasury Department benefits. For example, in the past decade the fund has experienced gain of about $288 billion, all of which went to

reduce the Treasury's liability. [Ref. 14, p. xvii] Arguably, DoD's outlay could have been reduced by a significant fraction of this amount. [Ref. 14, p. 24]

The second issue in the funding process is that the services transfer to the fund amounts equal to a percentage of basic pay for active duty and reserve service members. This policy makes no differentiation by service. Furthermore, it does not distinguish between officer and enlisted content and assumes that all services retire service members at an identical rate.

However, if accrual percentages were computed for each service they would differ significantly. In fact, the current system causes the Army, Navy, and Marine Corps to carry several hundred millions of dollars a year of Air Force personnel costs. Since the liability is funded from personnel funds the result is decreased compensation for personnel in those services. [Ref. 14, p. xix]

G. PERCEIVED PROBLEMS WITH THE MILITARY RETIREMENT SYSTEM

Despite its ability to stand the test of time, the twenty-year retirement system has been controversial from the beginning. Reports by the Joint Army-Navy Pay Board in 1947 and the Hook Commission in 1948 reflect some of these initial concerns. More recently critics have argued that the system is excessively costly, unfair to the vast majority of military entrants who do not serve a full 20-years, inefficient, and not responsive to force management requirements. They feel the current retirement system makes it difficult to change the size or composition of the force. [Ref. 4, p. 2]

Data show that the services are reluctant to involuntarily separate personnel with less than 20 but more than 10 years of service because of the financial consequences for

service members and the resulting impact on morale. The twenty-year system creates an implicit contract to mid-careerists and induces the services to retain more middle management than they might otherwise. This particular problem was highlighted by the need to induce separations or compensate separated members with less than 20 years of service during the recent reduction in force. [Ref. 17, p. 5]

1. Excessive Costs

Critics maintain that today's military needs many service members for less than 20 or 30 years and may want to retain others for longer. Participants in a 1996 GAO survey supported lengthening careers for senior officers and shortening them for other officers because of the increased investments made in both the formal education and joint operational experience of senior officers. [Ref. 17, p. 5] Defense analyst (and later, Under Secretary of Defense for Acquisition and Technology) Jacques Gansler noted, "The military retirement, though politically loaded, is likely to be forced to change because of cost considerations. More and more people have been retiring at about 40 years of age, depriving the services of their expertise and collecting retired pay for the rest of their lives." [Ref. 4, p. 2] He implies that military retirees are departing before the service would like for them to do so and are receiving excessive benefits at the expense of taxpayers. [Ref. 4, p. 2]

2. No Provision for Vesting

Recently critics have charged that it is unfair for 20-year retirees to receive a retirement annuity for life while others who serve for shorter periods receive nothing. Of all officers in the service only 30 to 40 percent of the entrants will stay for a full career.

Likewise, only 10 to 15 percent of enlisted entrants will stay to receive some retirement benefit.

These critics argue that the military should be brought under the Employment Retirement Income Security Act's (ERISA) early vesting requirements. ERISA is the federal law that requires private sector employers to vest employees in their retirement systems, usually after five years of service. [Ref. 3, p. 176] A November 18, 1991, editorial in the Navy Times declared that "The unfairness of this system generally escapes the notice of anyone other than service people who, after serving honorably for five, ten, or fifteen years leave the military with nothing but a handshake. The drawdown, however, is shedding more light on the inequity."[Ref. 3, p. 176]

The issue of vesting must be considered most important in reducing the cost of the retirement system without fundamentally altering its structure. As noted earlier, an effective system must recognize two distinct purposes of the military retirement system: (1) to provide age old benefits to eligible personnel and (2) provide an inducement to leave the service prior to the age of full retirement from the labor force. It is reasonable then that the policy issues to be addressed are: (1) How long should individuals serve before becoming eligible for retirement benefits? and (2) Depending on experience, occupation, and individual performance, at what point should individuals be encouraged or forced to separate from the service? [Ref. 3, p. 196] Currently the answer to both for the majority of military retirees is twenty years.

3. Hampers Force Management

The system is criticized for hampering force management in different ways. First, it constrains the experience distributions of the force. The services determine how many

personnel are needed for each pay grade, and then obtain desired distributions in each grade by translating requirements into a year of service distribution. The desired force levels are based largely on what can be supported with retention patterns, and on the structure the services would choose without compensation system constraints. [Ref. 3, p. 176] Critics argue that force structure should be determined by mission requirements and national defense objectives.

Because military personnel must serve 20 years before receiving any entitlement, the services have been reluctant to separate personnel with close to 20 years of service. Also, the current military retirement system may hinder the goal of achieving a force of the right size and composition because it provides the same incentive to all categories of personnel. This implies that 20 years may not be the optimal career length for all personnel.

4. Inflexible

Although it would be expected that the services need different experience levels in different skills, the system produces similar experience distributions among a broad spectrum of military skills. Some skills require youth and vigor while others require experienced technical expertise. Investments are made in individual skill training only to result in those skills not being fully utilized by the member because of promotions and job assignments.

The Army, for example, requires large numbers of personnel in the infantry divisions, but relatively few at the more senior levels. As individuals remain on active duty their infantry skills are no longer required and they are relegated to desk jobs in the Pentagon, staff jobs, or other clerical positions. This illustrates that mid-level personnel

in the Army with combat skills, who are not yet vested in the retirement system, are sometimes assigned to other "infrastructure" jobs for the remainder of their twenty-year careers.

The Air Force and Navy, however, require more experienced personnel in mid-level and senior positions. This is evidence that the "one-shoe-fits-all" system may not efficiently match the right people to the necessary job. The recent drawdown proves that the current structure of the retirement system hampers the DoD's ability to respond to force management issues in a timely manner." [Ref. 3, p. 176]

5. Retention

Despite critics' charges that the system is overly generous, declining trends in recruiting and retention recently have forced policymakers to consider how REDUX is affecting individual decisions to leave the services. A 1994 RAND computer model shows that the retirement cuts included in REDUX would affect retention. The study indicates that officers would be 10 percent less likely to stay 20 years and enlisted would be 20 percent less likely. [Ref. 19, p. 12]

In 1998 the House National Security Military Personnel Subcommittee agreed that it was time to take another look at the REDUX system. Subcommittee Chairman, Rep. Steve Buyer said there is no quick fix to the problem, but that his subcommittee has begun discussions with the Pentagon to examine the issue. Service leaders feel that it would be too costly and politically infeasible to switch back to the old system. Instead senior leaders have concentrated on areas where they might make a positive impact for current service members, for example, creating a thrift savings plan. [Ref. 19, p. 14]

Raising compensation in other areas and recommending investments in Individual Retirement Accounts are other options that could be considered.

H. OPTIONS FOR MODIFYING THE MILITARY RETIREMENT SYSTEM

Perhaps the most important consideration for any retirement system is its fundamental structure, i.e., defined benefit, defined contribution, or a combination of both. With a defined benefit system, the benefit accrual formula, the formula for inflation adjustments, and the point at which benefits are paid are established in advance and relatively fixed. Risk to the employee is minimal. Under a defined contribution plan, the amount employees can contribute, the level of matching funds, and investment options must all be considered. Benefits are determined by a formula that includes these factors as well as the performance of the investment selected. Risk to the employee is maximized. Vesting issues are a consideration in either type of system. [Ref. 17, p. 29]

1. Vesting

Participants in a 1996 GAO study all supported changes to the current system to provide some benefits to personnel who serve less than 20 years. Common to all possible proposals is that members would be vested earlier in a portion of their retirement benefits, thereby decreasing the benefits associated with serving 20 years or more. One proposal for vesting benefits earlier was adding a deferred annuity for individuals who retire prior to completing 20 years of service. Payments on benefits would be deferred until age 62 under such a plan. Advocates believe that such a plan would reduce costs while maintaining most of the current incentive for personnel to remain for 20 years. [Ref. 17, p. 30]

2. Tax-Deferred Savings With or Without Matching Funds

Several participants in the survey proposed adding a tax-deferred savings plan similar to a 401(K) plan. Although such a plan may not be regarded as early vesting, it would provide a way for service members to achieve additional long-term savings. Participants noted that this may offset the limited opportunity service members have to build equity in a home. They also commented that most enlisted members would have little extra income for a tax-deferred savings-plan. Upon GAO's request, the DoD Actuary estimated the impact on retirement accrual costs of several options, measured by the normal cost percentage, all of which retain the basic retirement feature of having an immediate annuity after 20 years of service. [Ref. 17, p. 30]

a. Option 1: Deferred Annuity

The first option calls for a deferred annuity for persons leaving with less than 20 years of service. This option included two types of benefits in the form of a deferred annuity for members who leave the military with at least 10 years of service. One proposal (1A) recommends not adjusting for inflation before age 62 and the other (1B) does provide for inflation adjustments. Under 1A, adjustments for inflation are included at one percentage point below the consumer price index (CPI) after age 62. In (1B) the indexed benefit assumes cost-of-living increase during the deferral period of one percentage point below the CPI. Benefits for members serving 20 years or more would be the same as under the current system. [Ref. 17, p. 47]

Under the deferred annuity option (1A) the normal cost to fund the MRF would be 28.3 percent of basic pay. In FY 98 dollars this would represent a 2.4 percent savings for the DoD. To the Department of the Navy this would represent a savings of

$61.6 million per year. Likewise, option (1B) would save the Navy approximately $51.4 million in FY 98 dollars.

b. Option 2: Tax Deferred Savings Without Matching

The second (2) option is for a tax-deferred saving plan without government matching funds. All personnel who serve a minimum of 20 years would receive benefits as specified by the current military retirement system. In addition, individuals would be allowed to participate in a Thrift Savings Plan, contributing up to 5 percent of their pay, but the government would not provide matching contributions. Income tax on contributions would be deferred. [Ref. 17, p. 48]

Although option 2 would result in deferred savings for service members, there would be no additional savings for the Department of Defense. It may even be more costly because the costs associated with managing such a plan would have to be accounted for. However, this option would most likely have a positive effect on retention to some degree and may result in net savings when accounting for recruiting and training replacement costs. This area will be discussed in more detail in Chapter V.

c. Option 3: Tax Deferred Savings With Matching

A tax-deferred savings plan with government matching funds is the third (3) option. It represents a combination of both a defined benefit and defined contribution plan. Under this plan all personnel who serve a minimum of 20 years of service would receive benefits under the current system. In addition, individuals would be allowed to participate in a Thrift Savings Plan where the government would match up to the 5 percent limit. Such a system would be identical to the Thrift Savings Plan under FERS. [Ref. 17, p. 49]

Option three would increase the normal cost of funding military retirement by .08 percent. This would result in additional annual costs of just over $20 million to the Navy. It reflects an increase of normal costs to 31.5 percent of basic pay. Again, the impact of such an option will be discussed in greater detail in chapter five. Specifically, it will address a military defined contribution plan similar to the Federal Employee Retirement System's Thrift Savings Plan with and without government matching funds.

d. Option 4: Graduated Vesting

The final proposed option (4) is for a graduated vesting schedule for individuals leaving the service with less than 20 years of service. As under other options, personnel who serve a minimum of 20 years of service would receive benefits under the current system. Personnel who serve between 10 and 20 years are vested in an annuity based on the current military retirement formula. The benefit is a combination of a deferred annuity at 10 years of service and an immediate annuity at 20 years of service. The benefit is not indexed for inflation until age 62. Adjustments at 1 percentage point below the CPI are made after age 62. The actuary provided an estimate of the effect on the percentage of normal cost by adding a mixed immediate and deferred annuity for members who separate between 10 and 20 years of service. [Ref. 17, p. 50]

The actuary estimates that the normal cost under option four would be 29.9 percent assuming no change in retention patterns. This would result in savings of .08 percent. However, under such a plan the actuary estimates that more members would elect to separate between 10 and 20 years of service, reducing the normal cost to 24.7 percent, a savings of six percent from the current cost. This would amount to $154.1 million in annual savings. A member in the GAO survey commented that although

earlier vesting options have been mentioned before, they were not implemented because the services did not believe the options proposed would give them enough flexibility in managing the force. Table 3-4 summarizes the details of each of the proposed options.

Table 3-4

Summary of Recommended Changes to the Military Retirement System

	Options 1A & 1B	Option 2	Option 3	Option 4
Benefit Formula or Contribution Level	Same as REDUX	5 Percent of basic pay	1 year-5 percent to 7 percent with 20 years of service.	Same as REDUX
Calculation Base or Eligibility	Average of the highest 3 years	1, 5 or 10 years of service	Immediate Eligibility	Average of highest 3 years
Timing of Benefit Receipt	All personnel with 10 or more years.	Age 62	Age 62	Combination of deferred and immediate annuity. The deferred benefit is payable at age 62. The immediate annuity increases to 100 percent between 10 and 20 years of service.
Actuary Output	Normal Cost Percentages: REDUX: 28 Non-Index: 28.3 Index: 28.7	Immediate Contribution: $3.1 billion Projected Contributions for 10-years of service: $1.5 billion	Increase normal costs to 31.5 percent. To maintain normal costs of 28 percent would require a reduction in the defined benefit formula multiplier of 11 percent.	The normal cost percentage with adjusted decrement rate is 24.7. With no change in retention behavior, normal cost would be 29.9 percent.

Source: Adapted from Military Retirement: Possible Changes Merit Further Evaluation, United States General Accounting Office.

3. RAND Proposal

According to a 1996 RAND study, placing military personnel under a retirement system similar to the Federal Employees Retirement System (FERS) could save DoD $2.4 billion per year and maintain the same size and quality force that we now have. The system RAND analyzed included a defined benefit plan, a defined contribution plan, and Social Security benefits. Under the plan, the defined benefit formula and provisions for government matching of TSP contributions would be identical to that of FERS. Because retirement benefits would be considerably less generous than the current system for those who separate with 20 or more years of service, the RAND analysis provided for an active duty pay raise sharply skewed toward the upper grades. The system also included separation payments. The savings result from the fact that increases in basic pay and separation payments were more than offset by retirement cost savings. [Ref. 17, p. 37] The costs, advantages, and practicality of a military TSP modeled after the FERS plan will be discussed further in Chapter V.

IV. PAY AND RETIREMENT TRENDS IN THE CIVILIAN SECTOR

A. INTRODUCTION

Employee benefits are intended to promote economic security by insuring against uncertain events and to raise living standards by providing certain services. Employee benefit programs add to economic stability by helping to secure the income and welfare of American families and the economy as a whole. Today's employment-based benefit programs represent a commitment to provide some measure of security to active workers, displaced and disabled workers, and their families. Most Americans receive some form of employee benefits at some time in their lives. Those who do not will most likely receive payments under some public assistance program. Nearly all U.S workers are covered under Social Security Old-Age, Survivors, Disability and Health Insurance (OASDHI). Also, more than one-half of full-time workers are covered by private employment-based pension plans. [Ref. 22, p. 27]

The distinction between employment-based pensions and individual savings for retirement has become blurred by the growth of defined contribution plans as both primary and supplemental retirement vehicles. Plans such as 401(k), 403 (b), 457, and individual retirement accounts (IRAs) require individuals to decide whether to participate, and then to determine contribution levels and asset allocation. These decisions will directly impact retirement income security for future generations of retirees. In 1994, there was more than $5 trillion invested in American pension and retirement income programs. [Ref. 23, p. xi] The U. S. tax system has extended special

treatment to these funds by not subjecting either contributions or the investment income they earn to income tax unless they are paid to beneficiaries.

The growth of defined contribution plans has given many workers an opportunity to save through a work-based, tax-deferred, retirement savings plan. The vast majority of Americans have always needed to engage in personal savings in order to have adequate retirement income. Others have assumed that Social Security, plus union or employer pensions, would provide for a secure retirement. Recently, labor market restructuring, global competition, and reports from the Social Security system trustees that Social Security cannot be sustained as we know it today have increased attention to the need for individual savings initiatives. This realization has raised concerns among employers, unions, financial professionals, the media, and public officials about whether individuals have the necessary education and tools to make informed decisions about saving and investing. [Ref. 22, p. 1] Most of this attention has been focused on participant-directed retirement accounts.

After a long period of steady growth in defined benefit plans, the spread of these programs came to a gradual halt in the 1980s. In the last decade there has been a significant shift toward defined contribution plans. By 1990, 80 percent of all private sector retirement plans were of the defined contribution type. These plans had 39 percent of the assets, received 65 percent of the contributions, and paid 49 percent of the benefits. Since then a pattern has emerged in the private sector: large employers have moved toward a combination of defined benefit and contribution plans while smaller organizations have relied almost entirely on defined contribution plans. [Ref. 23, p. 1]

The shift in relative emphasis toward defined contribution plans has some consequences for retirement income assurance. First, there is no benefit promise in a defined contribution plan. The benefit equals the sum of contributions made during wage earning years plus investment earnings on assets. Next, contributions are not specified in dollars or percentage of pay. It may vary with company profits or employee contribution amounts. Finally, upon retirement many workers receive distributions in a lump sum. Some roll over amounts into an IRA, others do not. [Ref. 23, p. 1]

In 1997 Congress allowed employees to save more money on their own for retirement on a tax-deferred basis, and provided for other separate types of plans to provide for special needs of small businesses and self-employed individuals. The Taxpayer Relief Act of 1997 also included provisions for expanded educational investment savings opportunities and savings for first time homeowners. [Ref. 24, pp. 2-3] Though defined benefit plans have been the cornerstone of the American retirement establishment as we know it since colonial times, recent trends brought on by changing attitudes, demographics, and economics have focused retirement planning toward a combination of both defined benefit and defined contribution systems.

B. DEFINED BENEFIT PLANS

In a defined benefit plan, the employer agrees to provide the employee a benefit amount at retirement based on a specific formula. The formula is usually one of three general types: a flat-benefit formula, a career-average formula, or a final-pay formula.

1. Flat-Benefit Formula

Flat-benefit formulas pay a flat dollar amount for each year of service recognized under the plan. [Ref. 25, p. 56] These plans are not as common as other benefit plans because they do not offer the same flexibility to adjust for economic factors and could result in excessive costs to the employer.

2. Career-Average Formula

There are two types of career-average formulas. Under the first type, participants earn a percentage of the pay recognized for plan purposes in each year that they participate. The second type averages the participant's annual salary over the period of plan participation. At retirement, the benefit equals a percentage of the career-average pay, multiplied by the number of years of service. [Ref. 25, p. 56]

3. Final Pay Formulas

Final pay plans base benefits on average earnings during a specified number of years at the end of a participant's career, when earnings are highest. The benefit equals a percentage of the participant's final average earnings, multiplied by the number of years of service. This formula provides inflation protection to the participant but can represent a higher cost to the employer. [Ref. 25, p. 56]

4. Defined Benefit Plans in the Public Sector

There are many differences between public and private sector defined benefit plans. In many public plans, employers are required to contribute toward the cost of the plan and cost-of-living adjustments (COLAs) are prevalent. Fewer private plans include such features. Also, more public-sector employees are likely to be covered by a defined benefit plan than private-sector employees in organizations employing 100 or more

workers. According to surveys by the U.S. Department of Labor, Bureau of Labor Statistics (BLS), 91 percent of state and local government employees participated in a defined benefit plan in 1994. This compared to 56 percent of private-sector employees in medium and large private establishments. Additionally, according to the U.S. Office of Personnel Management, 90 percent of all federal employees were covered by defined benefit pension plans. [Ref. 25, p. 377]

C. DEFINED CONTRIBUTION PLANS

In a defined contribution plan, the employer makes specified contributions to an employee's account and, on termination of employment, the employee is entitled to the value of the vested part of the account. Thus, a defined contribution plan requires the establishment of an individual account for each employee, because it is funded through contributions made by and on behalf of each participating employee. In general, annual additions to defined contribution plans may not exceed the lesser of 25 percent of an employee's annual compensation or $30,000. Annual additions include employer contributions, employee contributions, and forfeitures. [Ref. 23, p. 47]

Employee contributions to most plans are provided to both increase retirement savings and reduce employer's plan costs. Tax law imposes limits on both the mandatory and voluntary amount employees contribute to qualified plans. These restrictions are aimed at eliminating the risk that contribution requirements will result in prohibited patterns of discrimination. If, for example, an employee's contribution requirements were particularly burdensome, they could indirectly exclude low-income individuals from participating. Also, the limits on voluntary contribution are aimed at preventing a

qualified plan from offering excessive benefits to highly compensated employees in the form of tax-deferred savings accounts. [Ref. 23, p. 49]

There are several types of defined contribution plans. Money purchase plans are plans where employer contributions are made based on a percentage of an employee's salary. Target benefit plans seek to achieve a certain retirement benefit. Additional classifications include profit sharing 401(k)), thrift, stock bonus, and employee stock ownership plans (ESOPs). The maximum deductible contribution to profit sharing and stock bonus plans is limited by law to 15 percent of the compensation of all participants. [Ref. 23, p. 47] Specific characteristics of each plan are provided below.

1. Section 401(k)

The Revenue Act of 1978 authorized cash or deferred arrangements under section 401(k). Under this plan an employee may elect to have a portion of compensation contributed to a qualified profit sharing or stock bonus plan. These contributions are not treated as distributed or available (taxable) income to the employee but as deductible employer contributions to the plan. Section 401(k) plans have achieved considerable popularity since 1981, when the IRS published regulations clarifying their use and benefits. 401(k) contributions and deductions are governed by the same rules as other defined contribution plans except that the maximum employee elective contribution cannot exceed a specified dollar limitation, adjusted for the cost of living. The maximum contribution to such plans was $9,500 in 1998. [Ref. 22, p. 58] Changes made in The Revenue Act of 1986 (TRA'86) prohibit nonprofit organizations formed after July 2, 1986 and state or local governments formed after May 6, 1986 from maintaining such a plan. [Ref. 23, p. 51]

As a result of increasing participation in 401(k) plans, organizations are better able to determine worker participation and decision making in 401(k) plans. Data from the Employees Benefits Research Institute suggests that there are different factors that individuals use in determining contribution amount to these plans. The most common factors are shown in Figure 4-1.

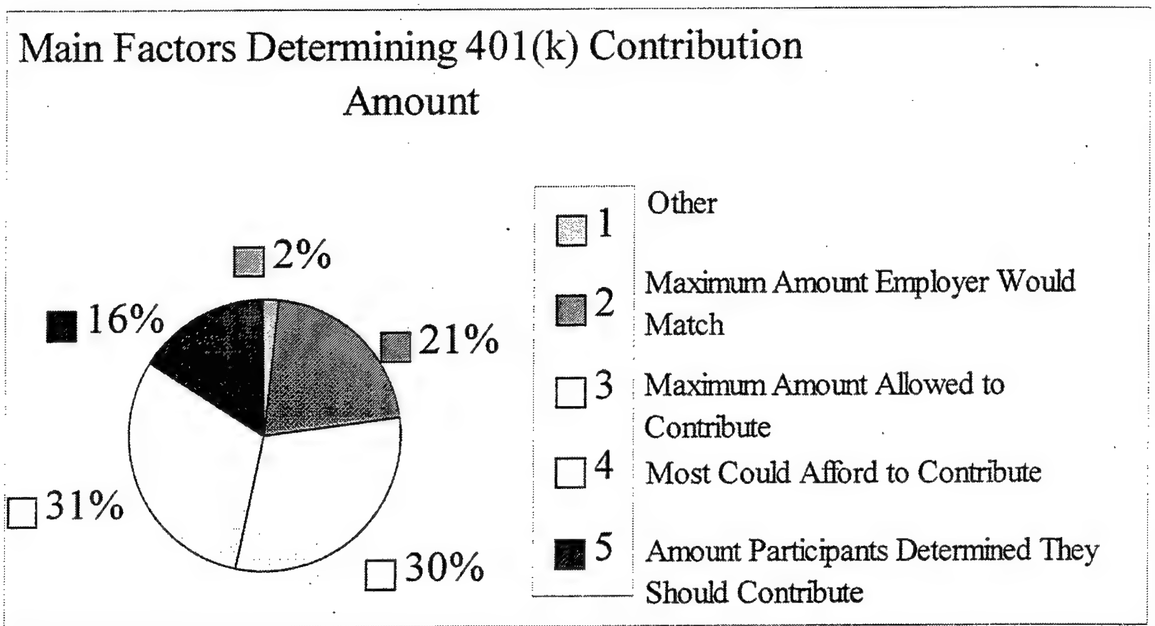

Figure 4-1

Source: EBRI Databook on Employees Benefits, 1997

Five major and minor factors explain why individuals do not contribute to these plans. Figure 4-2 shows the major and minor reasons for personnel deciding not to contribute. These figures are based on an EBRI survey that examined worker decision making in 401(k) plans. [Ref. 26, p. 115]

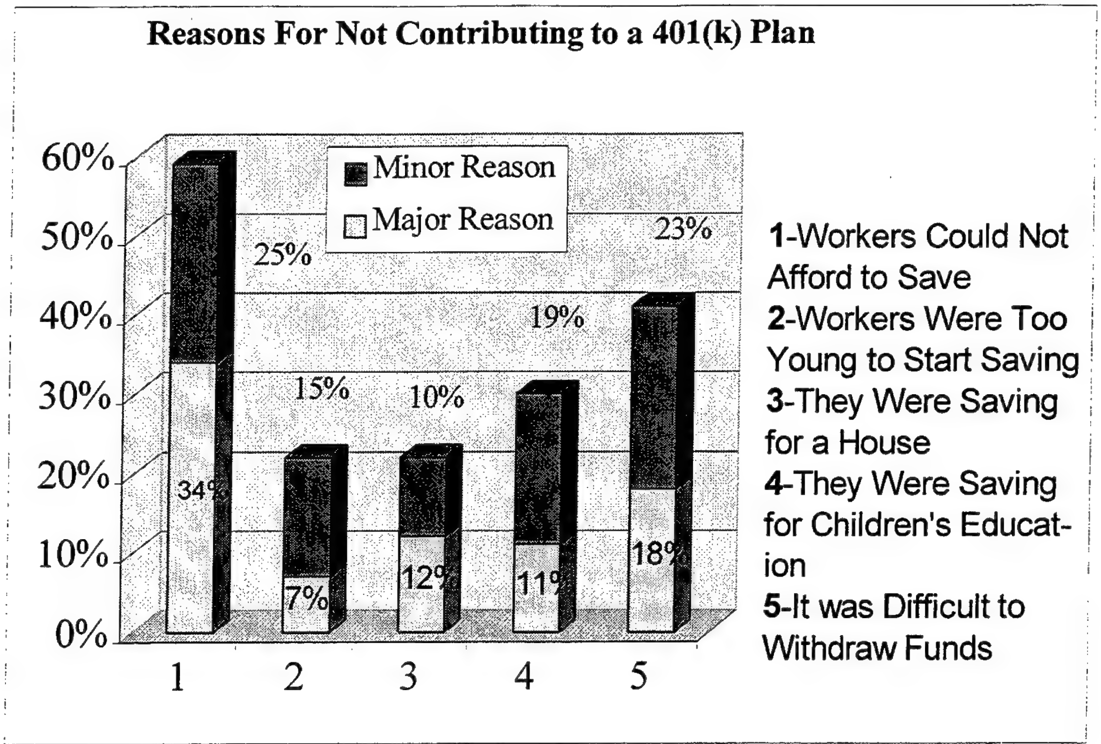

Figure 4-2

Source: EBRI Databook on Employees Benefits, 1997

2. Section 403 (b)

A special type of tax-deferred retirement plan under section 403 (b) is available to certain nonprofit organization and public schools. Effective in 1989, such tax deferred annuities (TDAs) must satisfy, with respect to contributions not made pursuant to salary reduction, essentially the same participation rules as 401 (k) plans. In addition, special nondiscrimination rules apply to elective contributions made by employees through salary deferrals. Annual contributions to a TDA cannot exceed a maximum limit referred to as an exclusion allowance. The exclusion allowance is generally equal to 20 percent of the employee's taxable compensation from the employer multiplied by the number of the employee's years of service with that employer, reduced by amounts already paid by the employer to purchase the annuity. Additionally, there is a limit imposed by the exclusion allowance on employee contributions made through salary reduction of $9,500 annually.

If an employee is required to contribute a set percentage of compensation to a TDA as a condition of employment, the contribution does not count toward the annual limit. [Ref. 23, p. 51]

3. Section 457

This section contains rules applicable to deferred compensation plans of state and local governments and agencies. Deferred compensation plans for employees of tax-exempt organizations were made subject to section 457 by provisions of TRA '86. Amounts of compensation deferred under a section 457 deferred compensation plan are not taxed to income when received. It is required that these deferred compensation plans be offered to all employees on a nondiscriminatory basis. Under section 457, the amounts deferred are limited to no more than one-third of taxable income compensation or $7,500, whichever is less. Any amount being deferred under a section 403(b) plan must be included in determining whether the overall $7,500 limit has been exceeded. [Ref 23, p. 51-52]

4. Section 414(h) (2)

Another arrangement under which pension plan participants may defer taxable income is by contributing to a pension plan, available only to public employees, called a "employer pickup." Under retirement plans maintained by a state or political subdivision, section 414(h) (2) provides that the employing unit may "pick up" contributions that have been designated by the plan as employee contributions. When such contributions are picked up, they are treated as if they were made by the employer and not the employee. "Picked up" employee contributions are not currently taxable as

income to the employee but are instead taxed later when received as pension income. [Ref. 23, p. 52]

Amounts of employee contributions under an employer pick-up must be accounted for in determining exclusion allowances and setting amounts that may be tax deferred through section 403 (b) tax-deferred annuities. However, the overall limit of $9,500 for elective deferrals under tax-deferred annuities is not reduced by an employer pickup. Public employee, state teacher, or university retirement systems in at least 18 states currently use pick-up plans. [Ref. 23, p. 52]

5. Simplified Employee Pensions

Simplified Employee Pensions (SEPs) are employer-sponsored plans that have similar features to IRAs. Under a SEP, the employer contribution is limited to 15 percent of compensation or $7,500, whichever is less. [Ref. 20, p. 126] It includes amounts that employees elect to contribute through salary deferrals. An employer may contribute to a SEP in addition to contributing to other qualified pension plans, but the SEP contribution will count in the total deductible limit on employer contributions to all qualified plans. [Ref. 23, p.53]

The employer contribution is invested in a retirement account for the individual employee. Amounts contributed to a SEP by an employer on behalf of an employee and elective salary deferrals are excludable from the employee's gross taxable income. Contributions and earnings in the SEP accumulate tax free until withdrawn. Employees are fully and immediately vested in the employer's contributions and the investment earnings from the contributions. [Ref. 23, p. 53]

TRA '86 expanded employee participation in a SEP by providing a salary reduction option, available to employees in firms with fewer than 25 workers, if 50 percent of eligible workers participate. The maximum deferral for 1993 was $8,994, reduced by any salary reduction contributions to a 401 (k) or 403 (b) plan. Also, a special non-discrimination test restricts highly compensated personnel from deferring more than 125 percent of the average deferral percentage for all other eligible employees. [Ref. 23, p. 53]

SEP plans must allow employees to withdraw contributions at any time, and continued employer contributions may not be conditioned on any employer contributions remaining in the account. Earnings accumulated on employer contributions are not taxed to the employee until distributed. Additionally, SEPs are subject to the same penalties on premature withdrawals as IRAs. Finally, employees covered under a SEP cannot make fully deductible contributions to his or her own IRA unless his or her adjusted gross income falls below $25,000 (single) or $40,000 (married). [Ref. 23, p. 53]

6. Participants in More than One Plan

In addition to limiting contributions to separate plans, section 415 (e) imposes further contribution limitations when an employee participates in both a defined benefit and a defined contribution plan sponsored by the same employer. Section 404 (j) denies deductions for amounts contributed to the fund in excess of the prescribed limits. In general, section 415 (e) states that if a participant is covered by both a defined benefit plan and a defined contribution plan by the same employer, the sum of the plan's fractions cannot exceed 1.0. [Ref. 23, p. 47] It restricts participants' tax deductions to a

certain percentage of contributions made to each plan. The fraction is figured using guidance provided in the tax code.

D. INDIVIDUAL RETIREMENT ACCOUNTS (IRAs)

IRAs were established by ERISA in 1974. In establishing IRAs, Congress intended to offer workers who did not have employer sponsored pension coverage an opportunity to save tax-deferred compensation for retirement use. The 1981 Economic Recovery Tax Act (ERTA) extended the availability of IRAs to all employees. TRA '86 retained tax-deductible IRAs for those who are not "active participants" in employer-sponsored plans but restricted or eliminated the tax deduction for individuals in a employer-sponsored retirement plan with income above a specified level. [Ref. 22, p. 163]

TRA'86 also added two new categories of IRA contributions: nondeductible contributions, which accumulate tax-free until distributed, and partially deductible contributions, which are deductible up to an amount less than the maximum allowable $2000. While TRA '86 made IRAs less advantageous for some, most individuals may contribute the maximum amount and deduct some or all of their contribution. For all individuals, IRA's remain a tax-effective way to save for retirement. [Ref. 22, p. 163]

1. Eligibility (Traditional IRA)

Under a traditional IRA, a single worker can contribute and deduct from gross income up to $2,000 per year if he or she is not an active participant in a company sponsored retirement plan and has an adjusted gross income (AGI) of less than $25,000. Deductible contributions are phased out for AGI between $25,000 and $35,000.

Nondeductible contributions are allowed for the balance of the $2,000 maximum limit. [Ref. 22, p. 164]

Where a husband and wife both earn income, each may contribute up to $2,000 of earned income per year. A two income couple can therefore make contributions of up to $4,000 per year. ,If a husband and wife file a joint return and either spouse is covered by an employer-sponsored plan, both are restricted in their eligibility to make deductible IRA contributions. They are each allowed fully deductible contributions of $2,000 each if their adjusted gross income is below $40,000. Deductible contributions are phased out for a combined AGI between $40,000 and $50,000, and nondeductible contributions may make up the remainder of the $2,000 ($4,000 if married) balance. A $2,000 nondeductible contribution is allowed for working spouses if their combined AGI is greater than $50,000. The Small Business Job Protection Act of 1996 increased the amount that an individual may contribute to a joint IRA for the individual and a non-working spouse from $2,250 to $4,000, annually. The new limit is equal to the maximum contribution allowable if both spouses work. [Ref. 22, pp. 164-165]

2. Contributions and Distributions (Traditional IRA)

An employer can contribute to an IRA on behalf of an employee or also offer employee IRAs through payroll deduction arrangements. The law also permits individuals to roll over distributions of total or partial account balances from: (1) one IRA to another and (2) a qualified employer plan to an IRA. The transfer of assets from one account to another must be completed within 60 days. [Ref. 22, p. 168]

If an individual receives a distribution from an IRA comprised of deductible contributions and earnings, the entire amount of the distribution is included in gross

income and subject to tax. If an individual receives a distribution comprised in part of previously taxed nondeductible contributions, the amount of the distribution that represents nondeductible contributions is excluded from gross income. If an individual receives distributions from an IRA prior to age 59 ½, a 10 percent penalty is imposed on the amount of the distribution included in gross income. [Ref. 22, p. 170]

Like any financial arrangement, IRAs require careful planning and monitoring. Because their ultimate purpose is to provide retirement income, investments need to be directed toward long-term return. IRAs can be an important addition to retirement savings opportunities. They are particularly useful for individuals who do not have employer pension coverage and for highly mobile workers with minimal or no pension benefits due to limited service in any one job. The amount of retirement income generated by an IRA depends on contribution amounts, age when the IRA is established, rate of investment return, and retirement age.

3. Roth IRA

In August 1997, President Clinton signed into law the Taxpayer Relief Act of 1997, which contains provisions creating what are called Roth IRAs, after Senator William Roth, the sponsor of this provision of the Act. The new law allows more Americans than ever before to save through a tax deferred IRA. Under the Act, certain penalty free withdrawals from a Roth IRA may be made immediately after conversion. The Act also allows for higher income eligibility limits. Specifically, contributions to a Roth IRA aren't tax-deductible and earnings can grow tax-free. Also allowed are penalty and tax-free withdrawal of earnings before five years if you are at least 59 ½ or for a first home purchase, higher education, medical expenses, death, or disability. Also,

distributions from a Roth IRA are not required at age 70 ½. Finally, you can continue to make contributions after age 70 ½ if you have compensation. [Ref. 24, P. 8-10] The requirements for and benefits from investment in a Roth IRA for military members will be discussed in Chapter V.

E. PENSION PLAN ROLLOVERS

The rules on rollovers changed effective January 1, 1993. Under new law, a total or partial distribution of the balance to the credit of the employee under a qualified plan may be rolled over tax-free to another qualified plan or IRA. The exception to this rule is if the distribution is one of a series of substantially equal payments made (1) over the life of the participant or (2) over a period of 10 years or more. Like IRAs, the transfer must be made within 60 days of the participant's receipt of the distribution from the first plan. A qualified retirement or annuity plan must allow participants to transfer any distributions that are eligible for rollover to another qualified plan or IRA. [Ref. 23, p. 56]

F. TAX CONSIDERATIONS IN PRIVATE PENSION PLANS

The statutory tax treatment of pensions was formally legislated through the Revenue Act of 1921, which exempted interest income of stock-bonus and profit-sharing plans from current taxation and deferred employee tax payments until distribution. Statutes enacted since 1921 have permitted employers to deduct a reasonable amount in excess of the amount necessary to fund pension liabilities (1928); made pension trusts irrevocable (1938); and established nondiscriminatory eligibility rules for pension

coverage, contributions, and benefits (1942). These provisions were incorporated into the Internal Revenue Code (IRC) of 1954 and, along with major modifications under the Tax Reform Act of 1986 (TRA '86), constitute the basic rules governing taxation of pension plans. [Ref. 25, p. 55]

The tax treatment of qualified pension plans provides incentives both for employers to establish such plans and for employees to participate in them. In general, a contribution to a qualified plan is immediately deductible in computing employers' taxes but only becomes taxable to the employee upon distribution. Subsequent earnings on the contribution are not subject to tax. This tax treatment is contingent on the employer's compliance with rules set out in the Employee Retirement Income Security Act of 1974 (ERISA) and administered by the U.S Department of Treasury and the U.S. Department of Labor. [Ref. 25, p. 55]

G. SPONSORSHIP, PARTICIPATION, AND VESTING IN PENSION PLANS

Individuals who work for an employer that sponsors a retirement plan will receive retirement income from that plan provided they meet the plan's age and service requirements for participation and vesting. Examination of the demographic and work-related characteristics of those employees who work for an employer where a plan was sponsored for any of the employees, participate in a plan, and are vested in such plans provides insight into who will benefit from pension income in their retirement.

According to EBRI tabulations of the April 1993 Current Population Survey (CPS) employee benefit supplement, 62.1 percent of all civilian nonagricultural wage and salary workers aged 16 and over were working for an employer where a retirement plan

was sponsored. In 1993, 75.9 percent of those workers working for an employer where a retirement plan was sponsored participated in the plan. Thus 47.1 percent of all nonagricultural wage and salary workers actually participated in an employment-based retirement plan. A worker becomes vested in a plan generally only after working for the sponsoring employer for a minimum number of years. In 1993, 85.5 percent of those workers participating in an employment-based plan were vested in that plan and 40.3 percent of all workers were vested in a plan. [Ref. 23, p. 29]

H. FEDERAL EMPLOYEES RETIREMENT SYSTEM

In the early 1980's, the Congress began to consider a new retirement system for federal employees, mostly because they felt that the existing Civil Service Retirement System (CSRS) was too costly. New legislation enacted in 1983 extended Social Security to federal employees hired after December 31, 1983, and established the Federal Employees Retirement System (FERS), modeled after private sector plans. Under FERS, retirees receive benefits from three sources: Social Security, a federal government annuity, and Thrift Savings Plan (TSP) distributions. Congressional policymakers were concerned that retirement benefits under FERS should be comparable with benefits under CSRS and enable employees to maintain their standard of living after retirement. [Ref. 27, p. 3]

The basic FERS annuity is similar to CSRS in that it guarantees a specific monthly retirement benefit based on age, length of service, and the average of the highest 3 consecutive years salaries. However, the benefit credit formula for the FERS annuity credits each year of service at one percent, while CSRS service credits range from 1.5 to

2 percent per year of service. Additionally, cost-of-living adjustments under FERS are lower and not provided before age 62. [Ref. 27, p. 3]

Pension professionals believe that to maintain roughly the same standard of living after retirement, individuals' income needs range from 60 to 80 percent of pre-retirement pretax income adjusted for inflation. Typically retirees pay lower taxes, do not have work related expenses, may not have dependent children, and probably have their mortgage paid. [Ref. 27, p. 3]

As of 1994, 942,000 FERS-covered employees (76 percent) were voluntarily contributing an average of 5.7 percent of their salaries to TSP. Most of the remaining 300,000 FERS employees who were not contributing were in lower pay brackets. Lower paid workers, who were contributing, contributed on average 4.4 percent of their salaries. [Ref. 27, p. 2]

1. FERS Eligibility

Under FERS, employees are automatically enrolled in TSP because federal agencies are required to contribute to the plan an amount equal to 1 percent of each employee's salary. In addition, employees can make voluntary contributions up to 10 percent of their basic pay: agencies match the first 3 percent on a dollar-for-dollar basis and the next 2 percent at 50 cents to a dollar, for a total agency contribution of 5 percent. Any additional employee contributions are not matched, but all contributions constitute before-tax savings and earnings on all contributions grow tax deferred. All employee contributions are limited to a statutory inflation-adjusted cap, which was $10,000 in 1996. [Ref. 28, p. 2]

2. Investment Options

TSP contributions can be invested in a federal government securities fund (G fund), a commercial bond fund (F fund), or a commercial large capitalization stock fund (C fund). The C and F funds are index funds that invest in securities in the stock and bond markets. Initially, TSP's law restricted the amounts that could be invested in the C and F funds through 1990. However, the restriction was lifted 1991 and contributions to these funds have increased since then. Also, plan participants can transfer any portion of their account balance among the three funds. [Ref. 28, p. 3]

a. Government Securities Investment (G) Fund

The G Fund consists of investments in short-term non-marketable U.S. Treasury securities specially issued to the Thrift Savings Plan. All investments in the G Fund earn interest at a rate that is equal to the average of market rates of return on U.S. Treasury marketable securities outstanding with 4 or more years to maturity. There is no risk for G Fund securities since they are guaranteed by the Government. [Ref. 28, p. 3]

b. Common Stock Index Investment (C) Fund

The C Fund is invested in a Standard & Poor's 500 (S & P 500) stock index fund, that is made up of the common stocks of all of the companies represented in the S & P 500 index. The C Fund gives participants the opportunity to diversify their investments by investing broadly in the U. S. stock markets and to earn the relatively high investment returns stocks have historically returned over long periods of time. The risk of investing in the C Fund is that the value of stocks can decline sharply, resulting in losses. [Ref. 28, p. 3]

c. Fixed Income Index Investment (F) Fund

The F Fund is invested in a bond index fund that tracks the performance of the Lehman Brothers Aggregate (LBA) bond index. The bond index consists primarily of high quality fixed-income securities representing the U.S. Government, private corporations, and mortgage-backed securities sectors of the U.S. bond market. The F Fund offers the opportunity for increased rates of return in periods of generally declining interest rates. The F Fund carries credit risk and market risk and, thus, has potential for negative returns that can result in losses. [Ref. 28, p. 3]

3. Vesting Requirements

When separating from Federal service, employees must meet the Thrift Savings Plan vesting requirement to be entitled to Agency Automatic (1 percent) Contributions and associated earnings. For most employees, the vesting requirement is 3 years of Federal service. Congressional employees and certain other non-career employees must complete two year of service. Employees who die in service are automatically vested in their Agency Automatic Contributions. Employees are immediately vested in their own contributions and in the earning attributable to those contributions. [Ref. 28, p. 2]

4. Contributing to TSP

To begin contributing to the Thrift Savings Plan, individuals must complete an Election Form (TSP-1) and submit it to their agency employment office during a TSP open season. The two open seasons each year are from May 15 to July 31 and November 15 to January 31. [Ref. 28, p. 4]

5. Tax Advantages

There are two major tax advantages to the Thrift Savings Plan (TSP). First, all TSP contributions are tax deductible. Second, individuals do not pay current federal income taxes on the earnings received in their TSP account balance. Most states allow the same pre-tax and tax deferred savings on their income taxes. These tax advantages continue until retirement. If employees leave Federal service before becoming eligible for retirement, they may transfer account balances to Individual Retirement Accounts or other eligible retirement plans. This will allow them to continue to defer taxes. It should be noted that amounts transferred to a Roth IRA are taxed identically to rollovers from traditional to Roth IRAs. These tax implications will be addressed in the next chapter. [Ref. 28, p. 3]

6. Withdrawal Options

The Thrift Savings Plan is a long-term plan for retirement savings with special tax advantages. Generally, individuals cannot withdraw amounts until they separate from federal service. Individuals may borrow from their contributions to purchase a primary residence or for general purposes. However, interest on the loan accumulates at the G Fund rate in effect at the time of receipt of the loan application. [Ref. 28, p. 4]

After separation from federal service, there are three ways for individuals to withdraw from their accounts. First, they can have the TSP purchase a lifetime annuity. Second, they can receive the balance in their account in a lump sum. Finally, they can elect to receive monthly payments. Also, if individuals do not want to withdraw from their account when they leave federal service, they can leave their entire account balance

in the TSP until age 70 ½. Individuals must begin receiving monthly or annuity payments by April 1 of the year following the year they reach age 70 ½. [Ref. 28, p. 4]

As of January 1995, TSP contributions and earnings were invested as shown in Table 4-1.

Table 4-1

Accumulated TSP Contributions and Earnings (1995)

(Dollars in billions)

Investment	**Amount**	**Percent**
G Fund	$ 26.9	40
C Fund	$ 36.7	55
F Fund	$ 3.3	5
Total	$ 66.6	100

Source: Federal Retirement Thrift Investment Board, Thrift Savings Plan Highlights, http://www.tsp.gov, May 1998.

7. Average Annual Returns

TSP's three funds have had relatively high average annual rates of return since 1987. The C fund has averaged 17.5 percent and the F and G funds' average have been 8.5 percent and 7.6 percent respectively. [Ref. 28, p. 1] From August 1997 through August 1998 the funds have returned 19.14 percent (C Fund), 7.84 percent (F Fund) and 6.21 percent (G Fund). [Ref. 29, p. 1] The C and F funds have also been more volatile than the G fund. The higher returns available from the C fund also involve somewhat higher risks inherent in stocks. Thus, the retirement income provided by the TSP depends on how much individuals contribute and the risk that they are willing to undertake. Because returns and risks are related, the ability to diversify investments

among stocks and bonds is an important factor for participants in a program such as TSP because it allows them to tailor their investments to reflect the level of risk they are willing to take. [Ref 27, p. 6] The trends and returns for each fund are shown in figure 4-3.

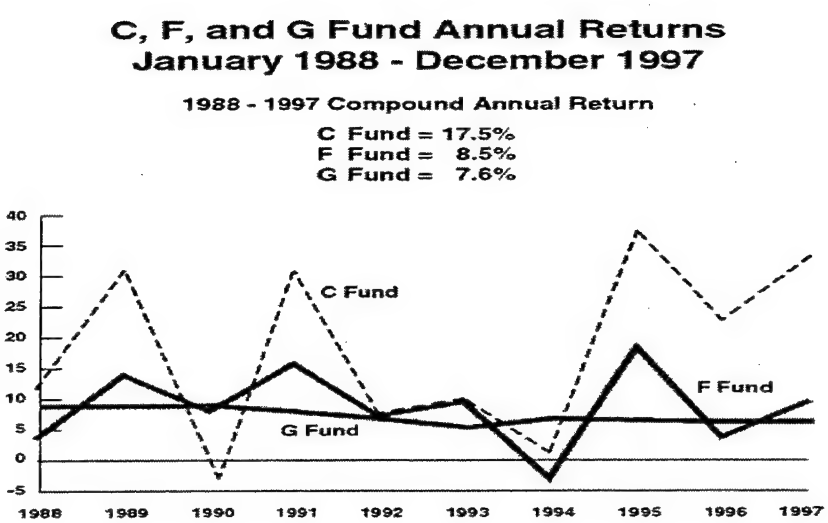

Figure 4-3

Source: U.S. Office of Personnel Management, Federal Employees Retirement System, http://www.tsp.gov, 1998.

I. FERS FUND COMPARISON

A member contributing $2,000 annually, at the beginning of each year, to the C, F, or G fund from the funds' inception in 1987 until 1997 would have accumulated $58,315.05, $31,920.02, and $29,920.71 respectively from their own contributions. If the employee's annual salary was $40,000, a $2,000 annual TSP contribution would equal 5

percent of annual pay and be eligible for a 5 percent matching contribution. The matching contribution would provide additional savings equal to the savings from contributed amounts plus any earnings. The cumulated return is shown in table 4-2.

Table 4-2

C, F, and G Fund Return on Annual Contribution of $2000

Year	C Fund	Cum. Return	F Fund	Cum. Return	G Fund	Cum. Return
1988	11.84%	$ 2,236.80	3.63%	$ 2,072.60	8.81%	$ 2,176.20
1989	31.03%	$ 5,551.48	3.89%	$ 4,638.28	8.81%	$ 4,544.12
1990	-3.15%	$ 7,313.61	8%	$ 7,169.35	8.90%	$ 7,126.55
1991	30.77%	$12,179.40	15.75%	$10,613.52	8.15%	$ 9,870.36
1992	7.70%	$15,271.22	7.20%	$13,521.69	7.23%	$12,728.59
1993	10.13%	$19,020.79	9.52%	$16,988.41	6.14%	$15,632.93
1994	1.33%	$21,300.37	-2.96%	$18,426.35	7.22%	$18,906.02
1995	37.41%	$32,017.04	18.31%	$24,166.41	7.03%	$22,375.72
1996	22.85%	$41,789.93	3.66%	$27,124.10	6.76%	$26,023.52
1997	33.17%	$58,315.05	9.60%	$31,920.02	6.77%	$29,920.71
Total with Matching Funds		$116,630.10		$63,840.04		$59,841.42

Source: Adapted from Federal Retirement Thrift Investment Board, Thrift Savings Plan Highlights, http://www.tsp.gov, May 1998.

Table 4-3 summarizes the total benefit at age 60 from a TSP for an employee who has invested $2,000 in any of the funds since its inception in 1987. It assumes rates of returns based on historical data from each fund's performance since their inception in 1987. It also assumes that individuals will continue to contribute $2,000 per year until age 60 and annual matching contributions will total $2,000.00 until age 60. Assuming an average annual inflation rate of 3 percent, the total value of the funds in present dollars will be: $3,743,569.78 (C Fund), $384,394.34 (F Fund), and $310,397.40 (G Fund).

Table 4-3

Total Value of Investment at Age 60 with 35 Years of Service (Historical Return)

Fund	C Fund		F Fund		G Fund
Annual Return 1987-1997	17.50%		8.50%		7.60%
Current Value of $2,000 Annual Investment 1987-1997	$58,315.05		$31,920.02		$29,920.71
Investments from Age 35-60	$632,649.65		$157,335.58		$137,940.95
Investment from Age 25-35 at Age 60	$3,286,452.24		$245,361.59		$186,757.75
Matching Funds from Age 35-60	$632,649.65		$157,335.58		$137,940.95
Matching funds from Age 25-35 at Age 60	$3,286,452.24		$245,361.59		$186,757.75
Total Value of TSP at age 60	$7,838,203.78		$805,394.34		$649,397.40

Source: Adapted from Federal Retirement Thrift Investment Board, Thrift Savings Plan Highlights, http://www.tsp.gov, May 1998.

Because the average rates of return for the period from 1987-1997 were considered to be higher than normal, more conservative rates of return would most likely be a better indicator of future returns for TSP participants. Table 4-4 summarizes the total benefit from TSP for a 35 year-old employee who has invested $2,000 in either fund since its inception in 1987. It assumes more conservative rates of returns of 10 percent for the C Fund (S&P 500 Index average since 1941), and 7 and 6 percent respectively for the F and G Funds (discount rates from OMB Circular No. A-94). It also assumes that individual will continue to contribute $2000 per year until age 60 and that matching contributions will total $2,000 annually until age 60. Assuming an average annual inflation rate of 3 percent, the total value of the funds in present dollars will be: $791,412.05 (C Fund), $286,316.74 (F Fund), and $227,478.60 (G Fund).

Table 4-4

Total Value of Investment at Age 60 with 35 Years of Service (Conservative Return)

Fund	C Fund		F Fund		G Fund
Assumed Annual Return	10.0%		7.0%		6.0%
Current Value of $2,000 Annual Investment 1987-1997	$58,315.05		$31,920.02		$29,920.71
Investments from Age 35-60	$196,694.12		$126,498.08		$109,729.02
Investment from Age 25-35 at Age 60	$631,826.42		$173,243.76		$128,415.82
Matching Funds from Age 35-60	$196,694.12		$126,498.08		$109,729.02
Matching funds from Age 25-35 at Age 60	$631,826.42		$173,243.76		$128,415.82
Total Value of TSP at age 60	$1,657,041.08		$599,483.68		$476,289.68

In May 1995, TSP's Board considered adding two additional investment options: an indexed domestic small capitalization equity fund and an indexed international equity fund. The Board selected these funds because the new funds would add diversity and provide the opportunity for greater returns than the current options though at slightly higher risks. . [Ref 27, p. 10] It is expected that the two new investment funds will be available to TSP participants in May 2000. [Ref. 30, p. 4]

The Small Capitalization Stock Index Investment (S) Fund will track the Wilshire 4500 index, which includes all common stocks actively traded in the U.S. stock markets except stocks included in the S&P 500 index of stocks. The International Stock Index Investment (I) Fund will track the Morgan Stanley EAFA index, which covers approximately 60 percent of the stock markets in Europe, Australia, and the Far East. [Ref. 30, p. 4] Adding the two funds will make TSP's number of investment options and

mix more like private sector section 401 (k) plans. On average, most private sector section 401(k) plans offer four or more investment options that include a number of bond and stock funds. [Ref 27, p. 10]

Note that the TSP analysis presented above is conservative in that it assumes constant contributions and matching funds totaling $4,000.00 per year. However, over the next 25 to 30 years it should be expected that income levels will rise, creating opportunity among individual investors for additional savings. Also, Federal Reserve Board Chairman Allan Greenspan has often referred to economic events in the early and mid 1990's as irrationally exuberant and unsustainable. Table 4-5 provides evidence of the strong economic climate of the past decade. Specifically, it identifies the three indexes used by the TSP Board to measure the success of each of the three funds.

Table 4-5

Index Returns (1987-1997)

Year	S&P 500 Index	Lehman Brothers Aggregate Bond Index	G Fund Related Securities
1987	15.17%	10.44%	11.02%
1988	16.23%	11.13%	11.09%
1989	17.46%	12.43%	11.04%
1990	13.85%	13.10%	10.78%
1991	17.53%	14.09%	10.19%
1992	16.15%	11.71%	9.57%
1993	14.93%	11.85%	9.03%
1994	14.40%	9.96%	8.45%
1995	14.87%	9.63%	8.03%
1996	15.29%	8.47%	7.89%
1997	18.05%	9.18%	7.69%
Total	173.93%	121.99%	104.78%
Average Return	15.81%	11.09%	9.53%

Source: U.S. Office of Personnel Management, Federal Employees Retirement System, http://www.tsp.gov,1998.

V. NEW OPPORTUNITIES FOR INDIVIDUAL RETIREMENT INVESTING

A. RETIREMENT SAVINGS

The fact that savings rates in the U. S. have declined during the past several decades is well known, yet the causes of the decline are subject to debate. A study by the Congressional Budget Office in 1993 found that the government sector accounted for approximately two-thirds of the decline in national savings, while the commercial sector accounted for only one-third. The study indicates that the decline in personal savings rates has contributed least to the decline in the overall U. S. savings rate. [Ref. 51, p. xiv]

Although only a small portion of the decline in savings can be attributed to a decrease in personal savings, it is true that personal saving rates have declined since the 1940's. From 1947 to 1996, personal savings as a percentage of disposable income peaked in 1973 and 1974 at 9.3 percent and neared that peak again in 1981. However, personal saving as a percentage of disposable income has declined overall since 1949, reaching its lowest point since 1949 in 1994 at 3.8 percent. [Ref. 26, p. 71] Appendix B shows U. S. personal savings rates for the period from 1929 through 1996. Figure 5-1 shows the trend in savings from Appendix B.

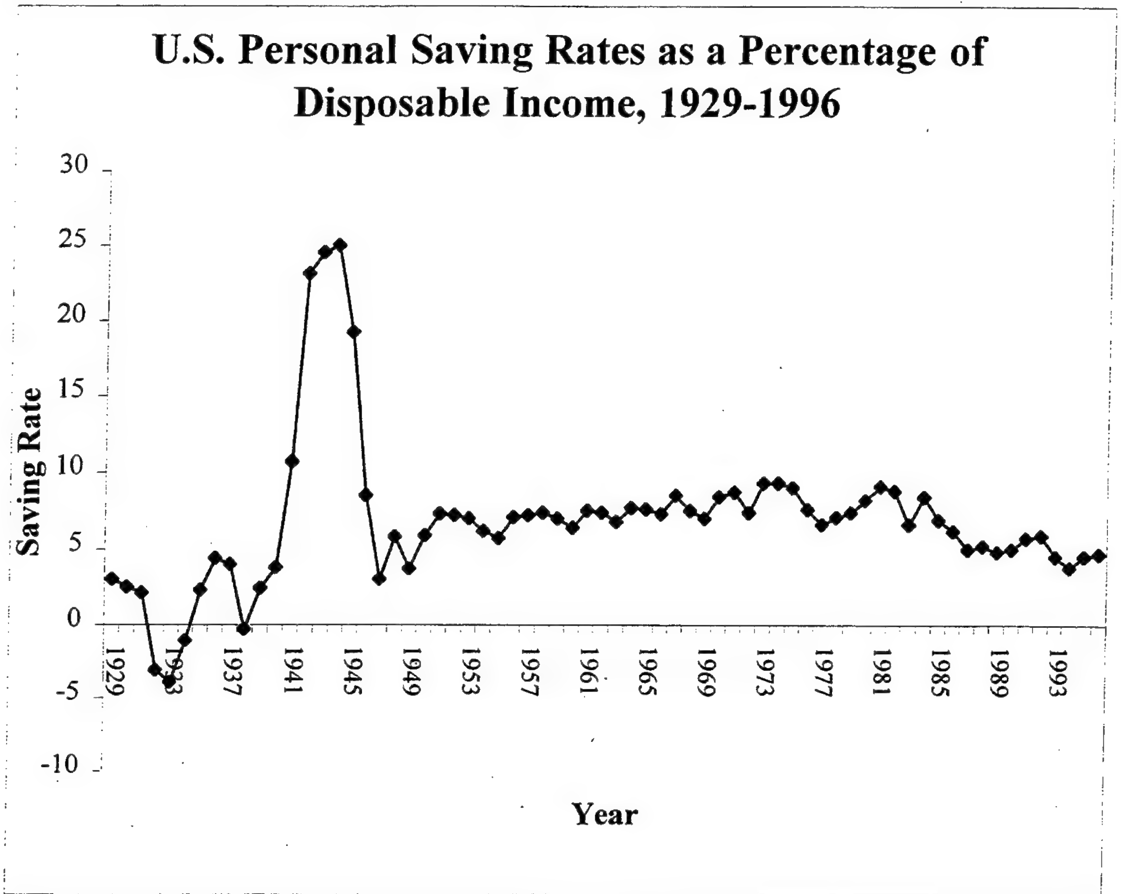

Figure 5-1

Source: Adapted from EBRI Databook on Employee Benefits, 1997.

1. Future Consequences of a Low Saving Rate

As the United States population ages and grows in number, the persistence of low personal saving rates since the late 1940's may be problematic for two reasons. First, from a personal finance standpoint, when workers save money today, they do so with the expectation of having sufficient income and assets in retirement and therefore need to rely less on Social Security, public assistance, or family help. Second, from a national macroeconomic view, when personal income is saved today, it can be used by businesses for capital investment and to promote economic growth. If economic growth increases, we are more likely to see higher per capita real Gross Domestic Product by the time baby

boomers retire. This translates into more wealth per person to support an unprecedented proportion of retirees. [Ref. 26, p. 71]

2. Reasons for Declining Saving Rates

There are many factors that have led to a decline in the personal savings rate, and economists disagree to the extent to which each may have contributed. Some argue that in the 1980's the boom in real estate and stock market investing caused people to invest more and save less in pursuit of increased wealth. The resultant increases in wealth translate into greater consumer confidence, which encourages more individual investing and lowers individual's propensity to save. Others argue that increases in consumer credit and home equity loans have caused people to assume less of a need for savings for future use. Critics note that increased consumer product campaigns have encouraged a more consumption-oriented culture. Finally, personal savings rates may have declined because the percentage of persons between age 45 and 65 (the group thought to save the most) has decreased, while the percentage of persons over 65 years of age (the group thought to save the least) has increased. To the extent that pure demographics contribute to the decline, the continued aging of the population in the future will only exacerbate this trend. [Ref. 26, p. 72]

The Taxpayer Relief Act of 1997, the Savings and Investment Act of 1997, and the Retirement Income, Security, and Savings Act of 1997 include provisions that amend the Internal Revenue Code of 1986 to encourage savings and individual retirement accounts, to provide pension security, portability, and simplification. Tax incentives have encouraged individuals to contribute to retirement plans and employers to sponsor them. Retirement saving has become an increasing percentage of all personal saving. In

fact, net personal savings as a percentage of disposable income was lower than total retirement plan savings as a percentage of disposable income in 1993 because of dissaving in other areas. Approximately 24.9 percent of the average household's $22,428 in assets in 1996 came from assets held in defined benefit and defined contribution plans. [Ref. 26, p. 72].

Clearly, individuals have taken advantage of tax incentives by participating in and contributing to retirement plans. The extent to which increased use of tax-favored retirement plans affects the total personal savings rate is debatable. It is argued that "Little, if any, of the overall contributions to existing saving incentives such as IRAs and 401(k)s have raised saving," [Ref. 26, p. 72] and that additional saving in one area is offset by spending or borrowing in another. Although 62 percent of pre-retirees polled by the Retirement Confidence Survey (RCS) reported being confident of having enough money to live comfortably through their retirement years, only 24 percent have tried to determine how much they actually need to save. [Ref. 26, p. 72]

Understanding individual choices about spending and saving alternatives involves a combination of psychological, educational, and economic factors that are difficult to isolate. The relationship between psychology, education, and personal finance on the decision to save for retirement is a relatively new area of inquiry that promises to attract increasing interest both in the private and public sectors. It is possible that the Department of Defense could use savings and retirement plans that have been successfully used outside of the military to benefit the men and women in the armed services, while providing incentives for recruiting and retention. Before implementing

any such plans in DoD, however, the costs, practicality, and future benefits of such changes should be closely examined.

B. THRIFT SAVINGS PLAN

The recent success of the Thrift Savings Plan in the Federal Employment Retirement System has focused attention on the fact that all federal employees with the exception of military personnel are eligible to benefit. Since the TSP was introduced to the federal branch of government in the 1980's, military members have questioned the policy of excluding them from this program. In fact, military personnel experienced a reduction in future retirement benefits in the mid-1980s, when other federal employees began enjoying the benefits of the TSP. Approximately 10 years later, Congress has begun to wrestle with this disparity and to consider options to allow active members of the armed forces to participate in the tax-deferred savings plan for civilian employees, as described below.

1. The Proposed Military TSP

Under a bill (H.R. 3933) proposed by Representatives John Mica and Owen Pickett, military members would be able to contribute up to 5 percent of their basic pay to the Thrift Savings Plan. Taxes on contributions and investment earnings would be deferred until they are withdrawn. [Ref. 31, p. 2] Representative Mica, Chairman of the House Sub-Committee on Civil Service, said "the bill will provide a low cost tool for dealing with recruiting and retaining qualified personnel." [Ref. 32, p. 1]

> Service men and women will be able to build up substantial savings over time without squeezing the already scarce resources of the Defense Department. This will ease the financial pressures that too frequently force dedicated men and women to abandon a military career in search of greener pastures. [Ref. 32, p. 1]

"The men and women who fight our nation's battles and preserve the peace are no less deserving of this excellent opportunity to save for their future than their civilian counterpart." [Ref. 32, p. 1] Pickett said. According to Navy estimates, a service member who contributes only $50 a month from age 19 to 39 would accumulate over $400,000 in savings by age 59, assuming an average rate of return of 10.5 percent. [Ref. 32, p. 1]

Analysis of the TSP proposal for military personnel reveals that it would be an additional benefit to military personnel in that, assuming personnel make maximum contributions to such a plan, five percent of an individual's pay would be shielded from taxation. This would be more advantageous than investing five percent in a mutual fund because any earnings from a TSP would not be subject to a capital gains tax.

Table 5-1 shows projected TSP savings for a typical O-5 and E-7 respectively with twenty years of service. It is based on the figures presented in Appendices C, D and E. Appendix C presents data on basic pay costs and maximum TSP contributions assuming a limit of five percent. Appendix D illustrates future basic pay rates based on annual cost of living adjustments of three percent. Appendix E presents the average age of promotion for each rank.

Table 5-1

Estimated Savings from a Military TSP for a Typical Officer and Enlisted Retiree

	Officer (O-5)			Enlisted (E-7)		
Year	Annual pay	Maximum Contribution	Value at the end of 20 year period	Annual Pay	Maximum Contribution	Value at the end of 20 year period
1	$24,280.46	$1,214.02	$7424.84	$11,549.69	$577.48	$3,531.82
2	$25,008.87	$1,250.44	$6952.34	$12,772.40	$638.62	$3,550.67
3	$25,759.14	$1,287.96	$6509.96	$14,233.42	$711.67	$3,597.11
4	$35,147.53	$1,757.38	$8075.11	$14,660.42	$733.02	$3,368.21
5	$36,201.96	$1,810.10	$7561.24	$17,712.20	$885.61	$3,699.41
6	$45,884.30	$2,294.22	$8712.30	$18,243.57	$912.18	$3,464.00
7	$47,260.83	$2,363.04	$8157.85	$18,790.87	$939.54	$3,243.55
8	$48,678.65	$2,433.93	$7638.71	$23,564.84	$1,178.24	$3,697.82
9	$50,139.01	$2,506.95	$7152.62	$24,271.78	$1,213.59	$3,462.51
10	$51,643.18	$2,582.16	$6697.46	$24,999.94	$1,250.00	$3,242.18
11	$64,017.73	$3,200.89	$7547.53	$25,749.94	$1,287.50	$3,035.86
12	$65,938.26	$3,296.91	$7067.22	$32,387.25	$1,619.36	$3,471.24
13	$67,916.40	$3,395.82	$6617.49	$33,358.87	$1,667.94	$3,250.34
14	$69,953.90	$3,497.70	$6196.39	$34,359.64	$1,717.98	$3,043.51
15	$72,052.51	$3,602.63	$5802.07	$41,663.85	$2,083.19	$3,355.00
16	$91,139.93	$4,557.00	$6671.90	$42,913.76	$2,145.69	$3,141.50
17	$93,874.12	$4,693.71	$6247.33	$44,201.17	$2,210.06	$2,941.59
18	$96,690.35	$4,834.52	$5849.65	$45,527.21	$2,276.36	$2,754.40
19	$99,591.06	$4,979.55	$5477.51	$46,893.02	$2,344.65	$2,579.12
20	$102,578.79	$5,128.94	$5128.94	$48,299.82	$2,414.99	$2,414.99
		Sum	$137,488.46		Sum	$64,844.83
		Value at Age 60	$764,424.47		Value at Age 60	$527,854.74

This analysis of how a TSP could benefit military members assumes an inflation rate of 3 percent per year, a 10 percent return on investment, and cost of living adjustments of 3 percent per year. It also assumes that military members make maximum contributions of 5 percent. Under such assumptions a typical officer entering the service as an ensign at age 22, retiring as an O-5 after 20 years of service would accumulate approximately $137,488.46 with total contributions of $60,687.85. If contributions were

left in the plan until age 60, it would accumulate $764,424.47 in savings. In today's dollars that would be the equivalent of $248,610.83 since inflation will reduce the purchasing power of money over time.

Under the same return and inflation assumptions presented above, a typical enlisted person entering the service as an E-1 at age 18, retiring as an E-7 after 20 years of service would accumulate approximately $64,844 with total contributions of $28,807. If the contributions are left in the plan until age 60, they would accumulate $527,854 in savings. In today's dollars that would be the equivalent of $152,528.50.

2. Differences Between the Proposed Military TSP and FERS TSP

The one negative aspect of the proposal under H.R. 3933 is that unlike the Federal Employees Retirement System, it would not provide any government matching funds. The resolution specifically states that,

> No contributions under section 8432(c) shall be made for the benefit of a member of the armed forces making contributions to the Thrift Savings Fund under subsection (a). [Ref. 31, p. 2]

The FERS TSP offers matching contributions of up to 5 percent. Also, FERS employees are allowed to contribute as much as 10 percent of their salaries to the TSP. [Ref. 30, p. 1] At retirement this will result in significantly more savings for federal employees under the FERS TSP. A comparison of tables 5-1 and 4-4 reveals that the FERS TSP would be $892,617 ($1,657,041 –$764,424) more generous for officers and $1,129,187 ($1,657,041-$527,854) more generous for enlisted assuming a 10 percent average return.

3. Military TSP Considerations

a. Current Retirement System Effects

Supporters of a proposed military style TSP contend that such a system would be fairer to members who leave the service prior to 20 years. This is contradictory to what service career force planners have used since before World War II to "pull" members to commit to 20 years of arduous duty and sacrifice. "The real risk is that, if you don't treat retirement as a hard-nosed, cold-eyed personnel management tool that sends the message, if you want the unusual benefit that isn't available to those in civilian jobs, you have to complete the full 20 years." [Ref. 33, p. 5]

Critics of a 401 (k) style plan for the military argue that the current retirement system is the best way to force service members with 8 to 14 years of service to accept unappealing assignments and continue for a 20-year career, rather then getting out. If the "pull" of the 20-year system is reduced by offering a vested plan through a 401(k) plan or by reducing regular military retirement, mid-level (8-14 years) personnel, whose families are not thrilled about unappealing duty, may have a greater tendency to get out.

b. Military TSP Contribution Rates

The proportion of FERS employees contributing to TSP has steadily increased. However, the degree of voluntary participation in TSP has varied considerably among salary ranges. In fact, among FERS employees making between $10,000 and $19,999 annually only 45 percent made contributions to TSP. Of those individuals the average deferral rate was only 4.4 percent. For employees having annual salaries between $20,000 and $29,000, 69 percent made contributions to the TSP. The average deferral rate for those workers was 5.2 percent. [Ref.30, pp. 6-7] Considering the fact

that the military workforce is younger than its civilian counterpart, these participation rates suggest that relatively few military personnel would contribute to a plan without matching funds.

On the surface it seems that a Roth IRA would be a better retirement option if individuals only contribute 5 percent on average to any plan. This reasoning implies that the individuals who would benefit from a military TSP with no matching funds would be individuals whose current income is above $40,000 or save on average more than 5 percent of their total income. Examining junior enlisted wages in Appendix C illustrates that E-5s and below making maximum contributions to both a Roth IRA and the proposed military TSP would be contributing in excess of 10 percent of their salaries. With regard to expendable income this would place most E-5 and below personnel close to or below the poverty level. If the military were to offer matching funds of 5 percent, the cost, based on the Navy's 1998 biannual budget estimates for basic pay, would be approximately $421.5 million annually for the Navy, assuming all individuals received maximum contributions. However, because of demographics it is most likely that a majority of young members could not afford to make maximum contributions. Also, if FERS is any indication, some members would elect to make no contributions at all.

c. Making a Military TSP Attractive

It seems that to make a military style contribution plan as successful as the FERS TSP has been with respect to contribution rates and participation would require some sort of matching. Recognizing that the military's current defined benefit plan is somewhat more generous than the federal employee's plan for those members leaving the service between 20 and 30 years of service, it is unlikely that the FERS TSP matching

contribution levels would be approved for a military TSP. Such a plan, with five percent matching funds, would be quite costly, as noted above.

Military compensation is unique in that its objective is to encourage young members with potential for greater responsibility to remain in the service. A system of skewed matching contributions seems appropriate for achieving long term retention goals by providing extra incentive for members to remain on active duty. This is especially appropriate in an environment where vesting has become an issue.

For example, a system that matches contributions of one percent for every two years of service after the first two years of service up to a maximum of five percent, would provide service members with benefits somewhat similar to FERS employees. However, since many military members do not continue on active duty after their initial commitments and matching contributions would be less for individuals with less than eight years of service, the system would be less costly. In fact, using current Navy demographics with respect to age, pay-grade, and retention numbers such a system would cost the Department of the Navy approximately $285.5 million annually. This represents approximately two thirds of the cost of a system identical to FERS with matching contributions of five percent. Again total costs would most likely be less since some members, especially junior personnel, would elect not to participate initially. At most such a plan would require approximately two percent of the 1998 total Navy personnel costs.

C. ROTH IRA

Effective in 1998, military members are able to benefit from Roth IRAs in the same manner as their civilian counterparts. Under traditional IRAs, many military personnel were excluded from the tax advantages associated with IRAs because they were considered to be participating in an employer sponsored pension plan (the Military Retirement Fund). This most likely discouraged some members from investing in a traditional IRA. However, historically on average only 30 to 40 percent of officers and only 10 to 15 percent of enlisted personnel ever receive any benefits from military retirement. [Ref. 3, p. 176] For those who leave the military prior to twenty years, their designation as members of a pension plan deprives them of the tax advantages provided by ERISA. This is contradictory to the intent of Congress when new tax laws aimed at encouraging individual contributions to Individual Retirement Accounts were passed as part of ERISA in 1974.

1. Roth IRA Contribution Levels and Eligibility

If an individual participates in an employer's retirement plan in 1998, he or she can contribute to a Roth IRA if their income is $110,000 or less ($160,000 if married filling jointly). A full contribution of $2,000.00 can be made if income is less than $95, 000 ($150,000 if married filing jointly). If an individual does not qualify for a full $2,000 contribution to a Roth IRA, he or she can still contribute the difference to a Traditional IRA. Additionally, if an individual converts some or all of his or her IRA assets to a new Roth IRA, their earnings grow tax-free if their adjusted gross income (AGI) is $100,000 or less. While they are required to pay taxes on the amount converted, there is no 10 percent penalty tax for early withdrawal. Also, during 1998 only, tax

payments on converted amounts can be spread over a four-year period. [Ref. 34, pp. 6-7] Eligibility for a Roth IRA is outlined in Figure 5-2.

Roth IRA Eligibility

To be eligible for...	Your adjusted gross income (AGI) must be....
A full $2,000 contribution	$150,000 or less (if you file a joint tax return) $95,000 or less (if you file single)
A partial contribution (less than $2,000)	Between $150,000 - 160,000 (if you file a joint tax return) Between $95,000 - 110,000 (if you file single)

Figure 5-2

Source: Fidelity Investments, Roth IRA vs. Traditional IRA, 1998

2. IRA Conversion Considerations

The decision to convert from a traditional IRA to a Roth IRA can be complicated. There are many factors for individuals to consider. First, adjusted gross income should be less than $100,000. Next, the individual should have 10 or more years to save until retirement. Also, he or she should have sufficient money, other than IRA contributions, to pay taxes on the rollover. Finally, the individual should assess whether he or she expects to be in the same or higher tax bracket when retiring and if they expect to make withdrawals before or after age 70 ½. Unlike traditional IRAs, a Roth IRA allows individuals to defer withdrawals until after age 70 ½. [Ref. 34, pp. 6-7] Table 5-2 compares the traditional IRA and the new Roth IRA.

Table 5-2

Comparison of the Traditional IRA and the Roth IRA

	Traditional	Roth
Eligibility Requirements	Under age 70 ½ with compensation. Married couples may open an IRA for a non-working spouse.	Any age subject to income limits. Married couples may open an IRA for a non-working spouse. **Income Limits** Single filers: \$95,000 (Full \$2,000 contribution) \$95,000-110,00 (Partial contribution) Joint Filers: \$150,000 (Full \$2,000 Contribution) \$150,000-160,000 (Partial Contribution)
Key Tax Advantages	Tax-deferred growth	Tax-free growth
Tax Treatment of Withdrawals	Any earnings and deductible contributions subject to tax upon withdrawal.	Contributions may be withdrawn tax-free. Qualified distributions of earnings are taxed.
Tax Deductible Contributions	Yes, subject to retirement plan participation status and AGI limits.	No
Maximum Annual Contribution	\$2,000	\$2,000
10% Early Withdrawal Penalty	Yes	Yes
Penalty-Free Withdrawals	Yes, higher education, first home purchase, medical expense, long-term unemployment.	Yes, higher education, first home purchase, medical expense, long-term unemployment.
Mandatory Distributions	Distributions must start at age 70 ½	No requirement.

Source: Fidelity Investments, Roth IRA vs. Traditional IRA, 1998.

3. Advantages of Investing in a Roth IRA

The advantage of a Roth IRA over a traditional IRA are illustrated in Figure 5-3. It assumes a \$2,000 annual investment at the beginning of each year, a 9 percent average annual rate of return, and a 28 percent tax bracket at the time of contribution and distribution. The non-deductible traditional IRA includes after-tax contributions, which

grow tax-deferred until withdrawn at the end of the specified period. The deductible traditional IRA includes deductible contributions, which grow tax-deferred until withdrawn at the end of the specified period. Also, to make a fair comparison with the non-deductible traditional IRA and the Roth IRA, the deductible traditional IRA value includes the annual tax savings from each year's contribution which are invested in taxable investments earning the same return. Earnings are taxed every year and the tax liability is deducted from the balance. The Roth IRA includes non-deductible contributions which grow and are distributed tax-free at the end of the specified period. All values reflect a lump sum distribution at the end of the period net any applicable taxes and assume no early withdrawal penalties due upon distribution. [Ref. 34, p. 2]

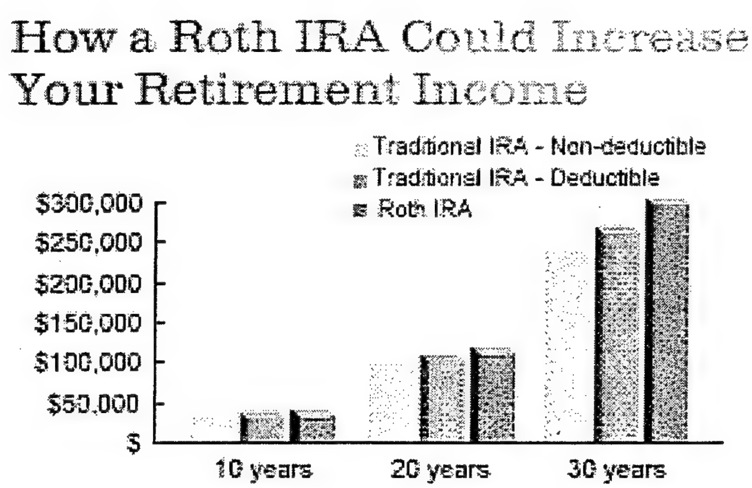

Figure 5-3

Source: Fidelity Investments, Roth IRA vs. Traditional IRA, 1998

D. INVESTMENT CONSIDERATIONS FOR MILITARY MEMBERS

Recently, there has been a drastic change in investment philosophy for employees working in the private sector and state and local governments. As mentioned in chapter

four, the private sector has moved much more toward defined contribution plans. While local and state governments have maintained some form of defined benefit plan for employees, the allocation of the financial assets in those plans has been transformed. In 1994 these assets totaled more than $1 trillion, up from $162 billion in 1979. As table 5-3 shows, pension fund investment has moved toward equities and away from bonds as a percentage of total assets. Bonds represented the majority of state and local pension fund investments for 1950 (95 percent) through 1988 (52 percent). [Ref. 26, p. 147]

From 1989 through 1995, bond holdings as a percentage of all state and local pension fund investments fell from 48 percent to 32 percent. At the same time equity holdings rose from 39 to 51 percent and other holdings (private mortgages and mortgage-backed securities, guaranteed investment contracts, mutual funds, and other financial assets such as real estate, receivables, and physical property) grew from 9 to 13 percent. [Ref. 26, p. 147]

The last decade has proven that military members are at a disadvantage with respect to realizing gains through defined contribution plans and tax deductible and tax deferred savings for retirement. Recent reductions in the military retirement system illustrate that that system is fair game for future budget cuts. Furthermore, it is unlikely that future retirement benefits will allow service members to enjoy the same lifestyle that they enjoyed while on active duty without other employment or financial resources. This is particularly evident as other forms of compensation continue to reduce the amount of basic pay as a percentage of total compensation. A TSP and/or Roth IRA could become sources that people in the military could choose to provide further financial security for their future.

Table 5-3

Annual Asset Structure of State and Local Government Pension Funds as a Percentage of

Total Financial Assets, 1950-1995

Year	Equity	Bonds	Cash Items	Other Assets
1950	1%	95%	2%	2%
1955	2%	94%	2%	3%
1960	3%	88%	1%	7%
1965	7%	81%	1%	11%
1970	17%	72%	1%	10%
1975	23%	68%	1%	7%
1976	25%	67%	1%	6%
1977	23%	70%	1%	6%
1978	22%	71%	2%	6%
1979	22%	70%	2%	6%
1980	23%	69%	2%	6%
1981	21%	70%	2%	6%
1982	23%	68%	3%	6%
1983	29%	60%	4%	7%
1984	28%	61%	5%	6%
1985	30%	58%	6%	5%
1986	32%	57%	6%	5%
1987	32%	57%	6%	5%
1988	36%	52%	5%	7%
1989	39%	48%	4%	9%
1990	36%	48%	4%	12%
1991	44%	41%	5%	10%
1992	45%	38%	5%	12%
1993	47%	37%	5%	11%
1994	44%	37%	6%	13%
1995	51%	32%	4%	13%

Source: EBRI Databook on Employee Benefits, 1997.

VI. FINANCIAL PLANNING PROGRAMS WITHIN THE DEPARTMENT OF DEFENSE

"There was a time when a fool and his money were soon parted, but now it happens to everybody." Adlai Stevenson, 1966

Management of personal finances is presenting an increasing challenge to military members and their families. For some, the lack of basic consumer skills and training in managing individual finances results in financial difficulty. The escalating cost of living in the United States and abroad, and the failure of military pay to stay abreast of prices have been made worse by the prevalence of easy credit, high pressure sales tactics, clever advertising techniques and undisciplined spending. In many cases, resultant financial problems have had a serious negative impact on military members and their families, as well as debilitating effects on unit readiness, morale, and retention. [Ref. 35, p. 1]

A. PROGRAMS AVAILABLE TO SERVICE MEMBERS

1. Personal Financial Management (PFM) Program

During the past decade, the Navy has seen a substantial increase in the number of service people experiencing financial difficulties. Evidence indicates that military personnel are experiencing significant debt, loss of credit and/or financial crises, including bankruptcy, poor budget practices, and lack of basic money management skills. [Ref. 36, p. iv] In August 1989, the Secretary of the Navy directed the Navy to "develop" a comprehensive personal financial management program that met the needs

of all DON members. In response to this important Quality of Life issue, the Navy Personal Financial Management Education, Training, and Counseling Program was implemented under OPNAVINST 1740.5 in November 1990. [Ref. 36, p. iv] The new program is commonly referred to as the Personal Financial Management (PFM) Program. Similar programs were developed in the other branches of the Department of Defense. [Ref. 40, p. 1]

The PFM program emphasizes personal financial responsibility and accountability by providing basic principles and practices, sound money management, counseling tools and referral services. Under the program, fundamental financial management principles and skills are introduced to officers and enlisted personnel at accession points. These skills are reinforced by Command Financial Specialists (CFS) at schools and command or unit levels. [Ref. 35, p. 1]

The PFM program directive identifies the Command Financial Specialist as each command's principle advisor on policies and matters related to PFM. The CFS are considered the most important link in the program as they serve as the interface between the service members in need and the program objectives. Each command is required to have at least one CFS and may have more at the discretion of the commanding officer. The PFM program sponsor is the Deputy Chief of Naval Operations (Manpower, Personnel, and Training) (OP-01). The Chief of Naval Personnel (PERS-00) through the Director, Navy Personal Readiness and Community Support Division (PERS-6) implements and coordinates the Navy PFM Program. [Ref. 36, Encl. 1]

CFS training is a five-day course conducted at designated Navy Family Service Centers (NFCS) or by a Mobile Training Team (MTT). The purpose of the course is to

provide the trainee with a basic understanding of financial management problems encountered by service members and their families and to provide them with the knowledge and skills to develop and implement financial training and counseling programs at their commands. [Ref. 37, p. 1] The CFS must be an E-6 or above, be highly motivated and financially stable. Also, they must complete a CFS training course provided by designated Family Service Centers. At the completion of formal training, the CFS shall be able to assist the command to establish, organize and administer the command PFM Program and disseminate financial management information within their command. Additionally, they maintain current PFM resource books, directories, references and training materials and present PFM training as part of the command General Military Training (GMT) program. Finally, Command Financial Specialists are responsible for counseling individual members and referring members with serious financial problems to appropriate agencies capable of providing assistance or counseling. [Ref. 36, Encl. 1]

The PFM program desk guide includes a two-hour saving and investment seminar. It provides an introduction to saving and investing, including goal-setting, establishing savings, and the fundamentals of investing. It is suitable for all military audiences and is regarded as the most motivating program in the CFS curriculum. The savings and investment program deals with a specific area of financial management that requires in-depth knowledge by the instructor. The objective of the seminar is to educate and train participants in the basics of saving and investing so they can establish a goal-oriented savings and investment program, or enhance plans already in place. The program

does sufficiently address issues pertaining to long term savings, and traditional IRA and mutual fund investing decisions. [Ref. 35, pp. 6-1-6-2]

The PFM desk guide recommends that instructors in the saving and investment seminar have a full understanding of investment and savings programs and have specific certifications in order to field questions from participants. The PFM desk guide specifically states that CFS are not investment advisors and are strictly prohibited from providing specific financial advice, making specific investment recommendations, or referring individuals to commercial organizations. [Ref. 35, p. 6-2] The guide implies that most Financial Specialists at the command or unit level are not experienced enough or have adequate training to advise service members on long term saving and investment decisions.

2. Transition Assistance for Military Personnel (TAMP)

The Transition Assistance for Military Personnel (TAMP) program was developed in 1990 through a coordinated effort with the Department of Labor's Transition Assistance Program (TAP) to help active duty military personnel transition from the military to civilian lifestyle. It is a combined effort between the Departments of Defense, Labor, and Veterans Affairs. An integral aspect of this program is ensuring that separating members are made aware of and have access to the numerous programs and services available to them in the transition process. [Ref. 38, pp. 1-2] Though this is a beneficial program for members transitioning from active duty to civilian society, it does not benefit young active duty members early in their careers with regards to financial planning. Also, it does not provide counseling for retirement saving and investing decisions. [Ref. 38, p. 2]

3. Transition Planning for Military Personnel

Another program addressing financial advice for military personnel is provided by the American Association of Retired Persons (AARP) Work Force Programs Department. AARP is the nation's leading organization for people age 50 and over. [Ref. 39, p. 2] The program is designed to provide a four-day seminar for transitioning personnel. There are approximately two and one-half hours of time allotted on day three of the seminar for Personal Financial Planning. The time is used discussing the importance of finances as it relates to the member's transition to civilian life. Time is spent looking at personal financial planning, including saving and spending patterns and investment options. [Ref. 39, p. 64] Though AARP prefers to offer the seminar two years prior to retirement from the military, most participants attend the program during their last three months on active duty. [Ref. 39, p. 3]

B. MILITARY SUMMIT ON PERSONAL FINANCIAL MANAGEMENT

Personal Financial Management has become a critical subject in both DoD and Congress. A report by the Senate Armed Services Committee, S.R. 105-340, included initiatives to educate young members on personal financial management. [Ref. 42, p. 297] Also, service and DoD initiatives were briefed during the first Military Summit on Personal Financial Management in December 1997. [Ref 40, p. 1]

A summit participant, Mr. Shawn Presson, indicated that DoD recognizes the significance of personal finances in the lives of service members. Thousands of hours and millions of dollars are spent dealing with these issues and much of the effort is remedial. The results of personal financial management inadequacies are lowered

productivity, lost-time, increased costs, stress related illness, security risks, and employability problems. [Ref. 41, p. 4] According to Presson,

> The DoD recognizes the significance of personal finances in the lives of service members and has chosen a proactive approach using multimedia for the following reasons. First, more personnel can be trained than current resources will allow using traditional methods. Also, multimedia is often superior to platform instruction in the DoD environment because variation can be reduced via interactive courseware. [Ref. 41, pp. 5-7].

PFM multimedia training is a multi-disc CD-ROM project sponsored by the Office of Family Policy and co-developed by the Office of the Assistant Secretary of Defense, Intec Multimedia, Virginia Polytechnic Institute and State University and 11th Day entertainment. [Ref 41, p. 10] The CD-ROM contains ten lessons on personal financial management. Lesson nine focuses on saving and investment by helping students understand the concepts behind short, medium, and long-term investment strategies. The lesson teaches the importance of starting early, goal setting, and retirement/estate planning. It also teaches students how to calculate the time value of money, evaluate risk, and develop a successful savings plan. [Ref. 41, p. 15]

C. RECENT ATTENTION TO PERSONAL FINANCIAL MANAGEMENT IN THE ARMED FORCES

The Senate Armed Services Committee has identified personal finance training as an item of special interest, urging secretaries of the military departments to review the adequacy of current programs. In their 1998 report, the committee makes reference to checkbook management, credit card management, and debt management. The report also states that committee members believe that command programs should make military

members aware of the advantages of the Roth IRA. [Ref. 42, p. 297] It states that the "Roth IRA may offer significant advantage to military personnel since that IRA option is more favorable to those in lower tax brackets and can be used for a variety of purposes. In fact, for many service members the Roth IRA may be more beneficial than a 401 (k) plan." [Ref 42, p. 297]

D. THE FUTURE OF PERSONAL FINANCIAL MANAGEMENT IN THE DEPARTMENT OF DEFENSE

Prior discussion in this thesis addressed the benefits of contributing to both traditional and Roth IRAs. Also discussed were the advantages that military members would derive from a Thrift Savings Plan similar to the FERS plan. Because options under FERS include choosing between stocks, bonds, and treasury securities or a combination of the three, a similar plan for military members would force them to choose the investment vehicles appropriate for their long-term goals. It would be beneficial to service members, especially junior personnel, to have some form of financial counseling to advise them on their options, risks, and possible benefits from investing in a plan such as FERS.

Examination of savings rates in the 1990's provided in Chapter V indicates a declining trend in savings rates in the U. S. Also, prevalent in the 1990's is an increasing trend in investments in defined contribution plans. Tax incentives in the form of greater deferrals and deductions are making contributing to defined contribution plans even more appealing. These trends signify that future retirement benefits will most likely depend on the investment decisions that young people make early in their careers. Unless young

members in the military are advised on the financial decisions available to them, they will most likely not benefit from similar retirement investments that their civilian counterparts will realize.

Retirement and saving plans in the private sector have proven successful for those employees who participate. If military members are to enjoy financial success in investment and savings decisions similar to that which civilian employees are experiencing, a more extensive program than is now in place to help advise members would seem beneficial.

The 1997 Military Summit on Financial Management emphasized the importance of personal finance in the lives of sailors and soldiers and provided some ideas to improve what is currently offered in the way of financial counseling. It appears that multi-media training programs, like the one currently being developed for use at a command level, would be beneficial for service members. However, because of the ever changing environment associated with this subject, future updates would be required to keep members up to date with new tax laws, investment opportunities, and long-term predictions. It appears that some resources in the form of Family Service Centers and Command Financial Specialists could be used to improve and expand systems already in place to provide guidance and counseling in these areas.

VII. CONCLUSION

A. SUMMARY

The objective of this thesis is to examine whether changes in the current Military Compensation System could provide savings to the Department of Defense, while providing military members the long-term security necessary to achieve force structure requirements in the All-Volunteer Force. It examines the current military pay and retirement systems and addresses issues including the perceived pay gap, the effects of reduced retirement benefits under REDUX, and proposed legislation for a military thrift savings plan. Additionally, it identifies current retirement saving plans being used in the private sector in order to provide comparisons between future private sector and military benefits. Finally, current personal financial management programs in the Department of Defense were examined to determine if there exists sufficient information and adequate human resources for counseling and advising service members if civilian style defined contribution plans were introduced in the military.

The current military compensation system is a complex array of pay, allowances, and benefits. Because of recent force reductions, a strong economy, and the basic structure of the military compensation system, it is difficult to determine the long-term effects of recent decreases in retirement benefits and perceived gaps in military pay on recruiting and retention. Preliminary statements by military leaders have suggested that the pay reductions are the cause of lower morale, unusually low retention, and increased problems in meeting recruiting goals. In a recent interview, Kenneth H. Bacon, Assistant Secretary of Defense Public Affairs Officer, stated that the Secretary of Defense is

particularly worried about whether changes in the military retirement system in 1986 are having a corrosive effect on retention today. [Ref. 43, p. 5]

B. MILITARY PAY ISSUES

Studies, such as the one conducted by RAND (DECI), illustrate that a gap only exists among some groups within the military. Still other critics have concluded that there is no gap, citing evidence suggesting that after substantial pay raises to military pay in the 1980s, members of the services should have been better off then their civilian counterparts. Others believe that civilian equivalency rates, like those used in the Navy Working Capital Fund, should be used as comparison for wages between military and civilian. However, using civilian equivalency rates would be inaccurate because these rates are based on what individual members cost each command. Civilian equivalency rates include such items as training, travel, and moving costs. They do not represent actual dollar amounts that individual members receive for performing work. Therefore, civilian equivalency rates should not be used to compare military and civilian salaries. After careful study it appears that trends in military compensation have begun to erode the value of basic pay, resulting in a persistent gap between military and civilian pay.

1. Comparing Military and Civilian Pay

Differences in structure between military and private sector pay illustrate that under the current system of compensation, the current index used (the ECI) to compare military pay to civilian pay is not accurate because it accounts for only some portions of military compensation. It does not include special pays, bonuses, incentives, and certain allowances. The problem in using the ECI is that not all military personnel receive such

"extra payments". Therefore, one must conclude that the only way to fairly compare military and civilian pay would be to simplify the current compensation and benefits system in the military.

The recent trend in providing bonuses or incentive pay to certain groups within the military in an effort to provide pay comparable to civilian counterparts undermines the principle of paying members according to rank. This policy seems to result in long-term retention problems in other groups or communities where individuals feel that their talents and expertise are not appreciated or rewarded. This can lead to long-term retention problems in a hierarchical system relying on an awards system based on rank, performance, and time in service. If policymakers feel that a military compensation system based on job description, community grouping, or technical expertise would be less costly and provide a more stable force, then the current system based on rank and time in service would have to be abandoned. Otherwise, it is apparent that the current compensation system should be revised to more closely reflect the principles on which the system was founded.

2. Reducing Bonus and Incentive Pay

One logical change to the current system would involve decreasing the resources applied to special pays, bonuses, incentives and allowances, and increasing basic pay such that basic pay accounts for almost all of active duty military compensation costs. If the current system of bonuses and incentives were reduced or eliminated it would provide an additional source to fund increases in basic pay and/or military retirement fund accrual charges.

Based on figures provided in the Department of the Navy Biennial Budget Estimates, basic pay could be increased by more than 10 percent by eliminating the current system of bonuses and incentives and using those resources to fund increases in basic pay. [Ref. 13, p. 13] Leaders and politicians are reluctant to do this because it would result in higher costs for military retirement. They would also argue that it would have a detrimental effect on retention because service members currently receiving large bonuses, special pays, and incentives may choose to leave the service.

However, it would provide greater incentive for those not currently receiving bonuses or incentives to remain in the service. Members may remain in the service whether compensation is in the form of basic pay or bonuses and incentives as long as the compensation is comparable to what could be made elsewhere. In fact, raises in basic pay would be more beneficial for service members because they would increase future retirement benefits. If compensation is not comparable individuals will be more likely to look for other employment.

3. Long Term Effects

a. The Diminishing Value of Basic Pay

The military pay system should be viewed in the manner that Senge uses in describing systems within organizations. He implies that one of the characteristics within any system, including the military pay system, is that the system grows for a period and then encounters problems that require changes or fixes to the system. "Many systems get locked in runaway vicious spirals where every actor has to run faster and faster to stay in the same place. Still others lure individual actors into doing what seems

right locally, yet which eventually causes suffering for all." [Ref. 44, p. 17] This is particularly evident with regard to the current system of incentives and bonuses.

Beginning as a simple system to retain and recruit a small fraction of personnel, bonuses and incentives are now being used to lure more than half of the active duty force. The system archetype that would best fit such a system would be "Shifting the Burden." It is when a short-term solution is used to correct a problem, with seemingly happy immediate results. As this correction is used more and more, fundamental long-term corrective measures are used less. "Over time, the mechanism of the fundamental solution may atrophy or become disabled, leading to even greater reliance on the symptomatic solution." [Ref. 43, p. 17]

It appears that policymakers are relying more and more on bonuses to attract and retain personnel. For example, the FY 1998 Navy budget estimates include provisions for an enlistment bonus to attract high quality personnel who might otherwise find greater financial rewards in the civilian marketplace. Also, the budget estimates contend that the selective reenlistment bonus continues to remain the most cost effective method of retaining top notch, technically trained personnel in critically manned billets to meet mission requirements. Many of these positions, including nuclear propulsion technicians, medical technician specialists, advanced electronic computer specialists, and foreign language specialists, are in demand in the civilian sector. [Ref. 13, p. 4] Policymakers assert that adequate reenlistment incentives are required to counter the potential loss of talent and expertise.

It is apparent that efforts at improving recruiting and retention have been focused on providing bonus and incentives to personnel. Though this has proven an effective

measure in the past, it poses significant risks to the fundamental structure of military compensation. Designed to be a short term solution to retention and recruiting problems in a particular community or rating, the long-term use of bonus and incentives continues to diminish the effect of basic pay as a retention and recruiting tool.

In fact, the Navy biennial budget for FY 1998 estimates that basic pay will constitute only 66 percent of total military compensation. [Ref. 13 p. 13] In FY 1991 basic pay costs made up 75 percent of active duty compensation. [Ref. 3, p. 179] This is quite a contrast considering that at one time the military relied on basic pay as the sole source of cash compensation for members. Also, because retirement benefits are calculated as a percentage of each member's basic pay, the lure of retirement is reduced by the diminishing value of base pay in total compensation. One could argue that while it appears that bonuses and incentives represent low cost tools for meeting retention goals, their long-term success is more than offset by the loss to the services of personnel leaving as a consequence of the diminishing value of basic pay.

b. Long Term Inequality Effects Among Ratings or Communities

It could be argued that although bonuses or incentives in one rating or community help to maintain or increase retention levels, they also hinder retention in other ratings or communities because those members look at the bonus or incentive as an inequality. In a system based on the fundamentals of equality, fairness, and responsibility levels the current system of bonuses and incentives weakens the compensation for work performed, hours worked, and responsibility level. In fact, it results in a system where it is possible for a lower ranking individual to actually earn more compensation than someone more senior. It seems appropriate that policymakers could consider bonuses for

achievement of a certain rank or promotion or as an award for superior performance.. But bonuses as incentive to remain in the service only undermine the incentive of basic pay and military retirement as the core compensation vehicle.

4. Basic Pay Raises

Where it is logical that basic pay should be the major tool to manage force structure, over the years there has been increasing emphasis on using military retirement, bonuses and incentives, and special pays for that reason. This creates a particular problem in that when a problem in recruiting or retention is encountered it may take long periods of time to determine which of the force structure tools caused it and which one should be used to correct it. One could argue that this lag in identifying causes for retention or recruiting problems only results in additional costs in the form of training new personnel to meet personnel shortfalls. Also, it forces the services to apply more personnel and financial resources to try and attract quality people. Arguably, those people and resources could be better used in operating units, procurement of new systems, or to fund raises in compensation to retain highly trained individuals already on active duty.

Another consideration for current compensation policy is the cost of managing all of the different pays, allowances, and compensation programs. For example, each different category of compensation requires budget and administrative personnel. A simpler system would reduce the cost of such personnel.

Examination of the current basic pay structure demonstrates that perhaps future pay raises could be skewed to provide greater incentive for performance and promotion. The percentage increases in pay should provide greater incentive for personnel to aspire

to higher rank and responsibility. For example, the pay raise to O-3 should not be a greater increase than the raise to O-4. Also, if the DECI study by RAND is accurate in concluding that some pay grades within the military are actually compensated more than their civilian counterparts, it may not be necessary to raise the pay levels in those pay grades since they would be less likely to be able to find greater opportunities in the private sector. Specifically, junior and senior enlisted males are identified as groups that should not require raises equal to other groups.

5. Cost of Closing the Pay Gap

A recent article in the *Newport News Daily Press*, estimates that the cost to close the current pay gap over the five-year defense plan would be over $31 billion. During a recent visit with operating forces, Secretary of Defense Cohen heard repeated complaints about pay and compensation issues. His staff is reviewing what proposals might be made in the fiscal year 2000 budget for better compensation. Service officials are urging the Secretary to ask for an increase in the ceiling for defense spending. [Ref. 52, p. 6]

C. MILITARY RETIREMENT ISSUES

1. The Military Retirement Fund

The accrual funding model as a vehicle to fund the Military Retirement Fund coincided with the introduction of REDUX for current active-duty military personnel entering after June 30, 1986. This has created a perception among today's forces that they have been called on to bear the brunt of past and future generations of military retirees. Under the military personnel system the accrual funding method requires that payments be made to the Military Retirement Fund (MRF) out of personnel funding

dollars from the four services based on a normal cost percentage. It could be argued that the normal cost of funding military retirement has decreased due to the recent draw-down. In fact, conservative economic assumptions made by the Board of Actuaries are a more likely the reason for decreases to the normal cost. [Ref. 14, pp. 12-16] Because the normal cost is paid from military personnel accounts, it seems appropriate that any gains to the MRF from the normal cost amount be realized by the military personnel accounts. Instead only the Treasury benefits from any such gains.

Despite the added requirement in 1986 to fund MRF, it appears that insufficient additional funding to the military personnel account resulted. Insofar as budgeting for military personnel is a "zero sum game," funding sources for the MRF have to come from other military appropriation accounts, perhaps including the military personnel accounts.

In light of this, it could be perceived that some portion of MRF funding has been provided from dollars that in the past had been used for annual pay raises or retirement benefits under High-3 or Final Pay. It appears that cuts to military retirement in 1986 may have partially resulted from legislative action in 1984 to require DoD to fund military retirement through the MRF. It was through the accrual based method of funding retirement that the true costs of military retirement were made clear. DoD does not realize gains on any portion of normal cost contributions. If budgeting for military personnel is a "zero sum game," then it is accurate to conclude that to some degree men and women in uniform today have been indirectly funding the MRF, either through decreased future retirement benefits or insufficient pay raises since the fund was mandated in 1986.

2. REDUX and the Future Outlook of Military Retirement Benefits

Preliminary evidence, provided by Rep. Steven Buyer and The Retired Officer's Association, suggests that the results of REDUX are decreased retention among first time enlistees and junior officers. For example, Admiral Bowman, director of nuclear reactors, recently addressed the recruiting shortfall by stating that the problem must soon be fixed before it becomes a crisis. Otherwise he said " we will be facing a death spiral with respect to nuclear manning, heading for a return to the extended at-sea tours we saw in the late 70's. " [Ref. 46, p. 8]

Evidence in recent RAND studies on compensation and force structure suggests that the reason for reductions in retirement spending under REDUX is that the current system was too costly. [Ref. 3, p. 176] But it seems premature to reach this conclusion without first studying the effects on force structure of the savings achieved by REDUX. For example, if such savings result in a less capable and qualified force, policymakers will have to decide if cost saving measures are appropriate and beneficial for national security. It would be more beneficial to study whether the same quality of force could be obtained at reduced cost.

Also, the RAND study suggests that REDUX provides a much stronger incentive to remain in the service beyond the 20-year point. Specifically "an analysis in Asch and Warner (1993) indicates that the post-twenty year retention rates will rise substantially." [Ref. 3, p. 196] Although substantiating evidence will not be available until after 2006, in a strong economy such as is being experienced in the mid-1990's, more individuals may be inclined to leave the service after 10 or more years of service because of promising job opportunities in the private sector.

Though REDUX was intended to increase incentives for individuals to remain on active duty for a 30-year career, recent retention trends and statements by law-makers, senior military leaders, and military advocates indicate that it has provided greater incentive for personnel to leave the service after their first enlistment. It appears that while REDUX has succeeded at providing a less costly system of retirement, at the same time it has discouraged individuals from serving a full career.

3. Costs of Restoring the Fifty Percent Retirement System

Many senior military leaders and advocates insist that restoring the 50 percent retirement plan to members under REDUX may not be feasible or the right thing to do. They argue that moving a million REDUX members to the High-3 plan would cost more than $9.3 billion over the 5-year defense plan. General Shelton has stated that with defense budgets capped at $250 billion a year under the balanced-budget agreement between the President and Congress, finding extra dollars for compensation would be tough. Rudy de Leon, Under Secretary of Defense for Personnel, favors giving full cost-of-living adjustments rather than capping COLAs at a percentage point below inflation. The services would prefer raising the REDUX annuity formula so that a 20-year retiree gets 50 percent. They believe such a change would be more visible and provide greater retention incentive. [Ref. 52, p. 6]

D. RECRUITING AND RETENTION ISSUES

In June 1998 Navy Secretary John Dalton was told by the Navy's career counselors that they are having an ever tougher time selling the Navy to individuals already in uniform. The Secretary responded that pay and retirement benefits were not

likely to improve much in the near future. His remarks came as the Navy has increased recruiting efforts by spending an additional $15 million on television ads and adding 750 recruiters to the 3,800 it already has. [Ref. 45, p.20]

Assuming that the additional recruiters are in the rank of E-6 or above, the cost of the additional recruiters basic pay alone is over $17.5 million. Housing costs and other allowances would drive this amount considerably higher. Because basic pay, on average, only constitutes 66 percent of total compensation, the additional personnel costs would most likely be greater than $25 million. These actions have the appearance of another short-term fix to a long-term problem. Some individuals refer to such solutions as "BandAid" fixes. What it fails to address is that there will come a time shortly after individuals are recruited and trained when more resources will be needed to keep them in (i.e., a retention bonus). Though bonuses and incentives seem to be more cost effective in that their use does not result in increased retirement benefits, there appears to be contradicting evidence as to the effectiveness of bonuses and incentives as retention tools.

For example, the head of the Navy's nuclear programs, Admiral Skip Bowman, says his community is facing dangerous shortages. According to *Navy Times* the Navy is short 18,000 sailors or 5.5 percent of the 328,000 enlisted people it needs and recruiters have not met monthly recruiting quotas since September 1997. [Ref. 46, p. 8] Other communities continue to claim similar problems. More generous bonuses are being sought by those communities to lure individuals to remain in the service.

1. Enlisted

It is estimated that the Navy will miss recruiting goals by 6,300 in 1998. Apparently the reasons for below average recruiting numbers have been forewarned for years. Admiral Barbara McGann, who heads the Navy's recruiting force, stresses that young people are more apt to choose college over a military enlistment. Other reasons include that young people today do not look to the military to start their working lives. Also, young people are not influenced by adults to join the services because fewer and fewer adults have military backgrounds. Finally, potential recruits do not want to commit to the four or six years of service required for most training. [Ref. 46, p. 8]

The one area not discussed by the Admiral is the effect that perceived decreases in military compensation and benefits are having on recruiting shortfalls. While there are as yet insufficient data to support such reasons, senior military leaders such as the Chairman of the Joint Chiefs, General Shelton, believe there is sufficient anecdotal evidence that compensation is impacting retention. [Ref. 52, p. 5]

2. Officers

Though it is apparent that the military is recruiting enough officers to fill first tour billets, retention of those officers appears to be of increasing concern. For example, average department head tours for surface warfare officers are being increased to on average 44 months, up from the traditional 36-month tours. Though leaders have been reluctant to admit that there are retention problems, the increased length of sea tours indicates insufficient numbers in the surface community to meet the demand every three years. To ease retention problems and prevent future decreases in morale, the surface

community has requested career incentive bonuses similar to those used in the aviation and nuclear communities. [Ref. 47]

3. Recent Trends Affecting Retention Decisions

a. Demographics, Quality of Life, Compensation, and Military Life

Today's service members and families are quite different from past members with respect to demographics. More than 55 percent of service members on active duty in 1998 are married and 70 percent of member spouses work. With families comes increased financial responsibility. Also, in the era of the All-Volunteer Force there is much competition between the military and the private sector for quality personnel. Retention of quality personnel can be directly related to service members' perception and satisfaction with the quality of life in the military. The military lifestyle can create special and unique financial concerns such as frequent moves, extended separations from families, fluctuations in pay, and retirement concerns. Financial problems are a leading cause of personal stress and family dysfunction in all military branches. [Ref. 36, p. A-1]

b. The Wage Penalty

A study presented at the Military Summit on Personal Financial Management in DoD in 1997, found that over the course of a military career, the wage penalty incurred by spouses of military personnel ranges from 13 to 34 percent less than expected earnings of civilian contemporaries. [Ref. 48, p. 17] This is attributed to frequent moves, which inhibit spouses from receiving benefits associated with working for a single employer for long periods of time. Lost benefits include little or no vesting in employer retirement programs, longevity pay raises, and/or healthcare benefits. The

study included 32, 847 civilian spouses of military personnel and compared them with 790,977 civilian DoD employees not married to military personnel. [Ref. 48, p. 1] The study concluded that a wage penalty exists among DoD civilian employees who are spouses of military members. The study considered this as a major reason for protecting military retirement as a deferred compensation for military families. [Ref. 48, p. 26]

c. Vesting

In Chapter III, graduated vesting is examined for service members with fewer than 20 years of service. It suggests that such vesting for military members has not been implemented because the services do not believe that it provides enough flexibility in managing the force. Similarly, the Military Summit on Personal Financial Management addressed the impact of adopting a retirement system which vests before 20 years of service. It concluded that vesting before 20 years of service would negatively impact recruiting and retaining well-educated enlisted and officers. It based its conclusion on three interrelated factors. First, well educated service members are married to well educated spouses. Also, the civil sector exhibits a rising wage premium for education. Finally, household income has become an important metric of household welfare as the number of two income families has risen. The study predicted that these factors may cause more mid-careerists to leave the service, especially if the individual is already guaranteed to receive some vested benefits. . [Ref. 48, p.21]

4. Retirement as a Retention Tool

Recent trends in recruiting and retention, competition from the private-sector, and the problems outlined in Chapters I through III, offer evidence that the current compensation system requires reengineering. Radical or fundamental process redesigns

such as eliminating bonuses, increasing retirement benefits through TSPs or IRAs, and increasing basic pay to close current pay gaps are only part of the overall problem facing the system.

Although there are different proposals with regard to the type of defined contribution plan that could be offered to military personnel, the economic success and popularity of equity investments in the past decade has proven that some kind of plan would be beneficial to people in uniform. Evidence suggests that recent trends in private sector retirement plans have placed greater emphasis on defined contribution plans. Also, law-makers are providing additional tax incentives to employees who participate in those plans.

It is likely that future laws will continue to provide incentive for individuals to save for retirement through defined contribution plans. It is possible that the earnings in defined contribution plans will have even greater impact on the economy as baby boomers begin to reach retirement age. While military retirement benefits have been regarded as generous when compared with other defined benefit plans in the past, the future returns in defined contribution plans are likely to provide much greater financial security than defined benefit plans. Analysis in Chapter V of the FERS TSP clearly indicates that participating federal employees will be better off at age 60 then the majority of military personnel who serve twenty years on active duty, disregarding post-retirement earnings. This is especially true for those military members who entered the military after REDUX was introduced in 1986.

5. Civilian Style Plans Undermine Military Retirement Justification

Critics of adopting private style retirement plans for the military claim that such systems undermine military retirement justification. They fail to acknowledge that military retirement is justified by how individuals serving on active duty today view the current system and whether those individuals feel they will be better off in the future with a private sector retirement plan or with benefits provided from the military's defined benefit plan. In short, the success of military compensation can only be measured by the number of individuals who remain on active duty.

It appears that the decreased value of future benefits under REDUX, as illustrated in the net present value comparison in chapter four, is causing more individuals to forego future military retirement benefits and seek greater returns and security in private industry or other federal or local government employment. We will not know if REDUX will achieve its goal of increased retention for members at the 20 plus career point until after 2006. However, it appears that unless benefits of the 50 percent retirement system are restored or alternative benefits such as a thrift savings plan are offered, the military will find it difficult to retain quality people in sufficient numbers in the 21st century.

The proposed thrift savings plan for military members would be one incentive for military members to stay for a full career. However, the proposed system with no matching funds, would not be nearly as generous as the TSP under FERS. Also, without matching funds there would be less incentive, especially for junior personnel, to contribute to such a plan. Because junior personnel are for the most part limited by income and would be able to do as well or better in a Roth or traditional IRA, it is likely that many would not contribute to a TSP plan without matching contribution. Analysis

presented in Chapter V illustrates that a system of skewed matching contribution would be less costly than the FERS TSP, but would still provide additional incentive for all service members to participate. Because the defined benefit plan in the military is somewhat more generous than the FERS plan, a TSP with matching funds less than FERS seems reasonable and justifiable.

6. More Attention to Retention and Recruiting Issues From Lawmakers

Issues concerning better pay and retirement benefits for military personnel have begun to attract more influential lawmakers. A September 1998 *Army Times* article identifies four items that Sen. Trent Lott, the Senate majority leader, has listed as areas that deserve closer attention. Among them are closing the military pay gap, returning to one retirement system that provides retired pay equal to 50 percent of basic pay for 20 years of service, and adopting a thrift savings plan similar to FERS for military personnel. Lott, whose position makes him the most influential member of the Senate, said he is concerned that reduced budgets and more missions are leading to overworked people and worn out equipment. He wrote in a letter to the chairmen of the Senate Armed Services Committee and the Senate Appropriations Committee that

> In an All-Volunteer Force, people choose to enter and whether or not to remain in the military. Today, this country is not attracting and retaining enough people of the kinds needed to staff an increasingly higher skilled force, even though the force size is smaller today than it was before World War II. [Ref. 49, p. 1]

In the August 12, 1998 letter to Senator Stevens, Senator Lott said,

> I am increasingly concerned that our military has begun a downward spiral that, if left unchecked will lead to a weakened military no longer able to underwrite our interests. This spiral results from fewer and fewer military people and less equipment and supplies, being called to do more and more around the world. This in turn, causes more wear and

> tear on people and equipment, which in turn results in fewer people and less equipment. [Ref. 50, p.1]

The Senator went on to say that "we need to get the missions, manpower, pay and benefits synchronized to enable us to continue with a quality force in the 21st century." [Ref. 50, p.1] Among the most important areas requiring attention he included: closing the pay gap, returning to the 50 percent retirement system, and offering military personnel a 401(k) style plan similar to FERS." [Ref. 50, p.1]

E. THE FUTURE OF MILITARY COMPENSATION AND RETIREMENT

The federal government is better equipped then it has ever been to analyze compensation issues. An enormous amount of information on retirement plans has been developed in various agencies that have some role in overseeing private pensions. One might expect that possible solutions would be developed, consequences measured, and legislative proposals made on how best to assure old-age income security for tomorrow's retirees. But long-term issues such as retirement income policy are given short shrift by a government seemingly transfixed by issues of current tax revenues and decreased operating budgets. However, military leaders and congressional advocates have recently addressed reform packages that may provide members in the military with some of the same retirement opportunities now enjoyed by non-military retirees.

In summary, the military compensation system has been significantly compromised. It appears the incentive to remain in the military has been reduced by diminishing the value of basic pay when compared with private sector and other public organizations. Also, decreases in retirement benefits for 20-year retirees under REDUX

may be causing larger numbers of active duty personnel to forego a full career in the military. Civilian style retirement plans such as the FERS TSP offer evidence that a similar benefit offered to military personnel would most likely provide additional incentive for individuals to remain on active duty for a full career.

Compensation policies such as skewed pay raises, skewed matching funds for employee contributions to a defined contribution plan, and/or employer sponsored IRAs are some examples of how policy makers could provide incentive for full military careers. Also, such changes would be less costly than closing the perceived gap with across the board pay raises or restoring the 50 percent retirement system to all active duty members. Although this thesis attempted to find ways in which compensation costs for personnel could be reduced, it seems apparent that in a strong economy, additional cuts in personnel compensation would only exacerbate the current retention and recruiting problems in the services.

Finally, it appears that greater emphasis on personal financial management within the services would benefit military members in savings and retirement planning. Counseling on the future benefits of contributing to a Roth IRA would be extremely beneficial. Because the deadline to convert to the Roth IRA and defer taxes over the next four years is December 31, 1998, such measures would need to take place quickly. Also, as discussed at the Military Summit on Personal Financial Management, multi-media training presents a means for consistent and informative education on saving and investment decision making.

F. RECOMMENDATION FOR FURTHER RESEARCH OPPORTUNITIES

This thesis presents some of the problems faced by the Department of Defense with regard to compensation issues for service members. In an era of shrinking defense budgets, a strong economy, and increasing demands on effectiveness and efficiency, military compensation promises to play an important role in defining the quality and number of personnel deciding to serve a full career. Further studies on retention, specifically the quality of personnel being retained, would be helpful in determining whether the military compensation system is effective. Studies aimed at comparing the quality of personnel staying in the service would seem beneficial in an organization focused on being more effective and efficient.

Also, the full effects of REDUX will not be known until after 2006. However, recent evidence suggests the new system is impacting retention and recruiting. More important than the sheer numbers of people is the effect that such reductions are having on the quality of the force. [Ref. 3, p. 182]

Though it appears military leaders and lawmakers have begun to address financial management planning and training programs for military members, more resources and research are necessary. Studies aimed at providing more comprehensive financial training programs for all service members at the command level would be beneficial.

APPENDIX A

Estimated Annual Retirement Benefits for an O-5 and E-7 Under Each Plan

O-5				E-7			
Age	Final Pay	High 3	REDUX	Age	Final Pay	High 3	REDUX
42	29,734	27,226	21,780	39	13,975	13,131	10,505
43	30,775	28,178	22,325	40	14,464	13,591	10,767
44	31,852	29,165	22,883	41	14,971	14,066	11,037
45	32,967	30,186	23,455	42	15,495	14,559	11,313
46	34,121	31,242	24,042	43	16,037	15,068	11,595
47	35,315	32,335	24,643	44	16,598	15,596	11,885
48	36,551	33,467	25,259	45	17,179	16,141	12,182
49	37,830	34,639	25,890	46	17,780	16,706	12,487
50	39,154	35,851	26,537	47	18,403	17,291	12,799
51	40,525	37,106	27,201	48	19,047	17,896	13,119
52	41,943	38,404	27,881	49	19,713	18,523	13,447
53	43,411	39,749	28,578	50	20,403	19,171	13,783
54	44,930	41,140	29,292	51	21,117	19,842	14,128
55	46,503	42,580	30,025	52	21,857	20,536	14,481
56	48,131	44,070	30,775	53	22,622	21,255	14,843
57	49,815	45,612	31,545	54	23,413	21,999	15,214
58	51,559	47,209	32,333	55	24,233	22,769	15,594
59	53,363	48,861	33,142	56	25,081	23,566	15,984
60	55,231	50,571	33,970	57	25,959	24,391	16,384
61	57,164	52,341	34,819	58	26,867	25,244	16,794
62	59,165	54,173	54,173	59	27,808	26,128	17,213
63	61,236	56,069	55,528	60	28,781	27,042	17,644
64	63,379	58,032	56,916	61	29,788	27,989	18,085
65	65,597	60,063	58,339	62	30,831	28,968	28,968
66	67,893	62,165	59,797	63	31,910	29,982	29,693
67	70,269	64,341	61,292	64	33,027	31,032	30,435
68	72,729	66,593	62,824	65	34,183	32,118	31,196
69	75,274	68,923	64,395	66	35,379	33,242	31,976
70	77,909	71,336	66,005	67	36,617	34,405	32,775
71	80,636	73,833	67,655	68	37,899	35,610	33,595
72	83,458	76,417	69,346	69	39,226	36,856	34,434
73	86,379	79,091	71,080	70	40,598	38,146	35,295
74	89,402	81,859	72,857	71	42,019	39,481	36,178
75	92,531	84,724	74,678	72	43,490	40,863	37,082
76	95,770	87,690	76,545	73	45,012	42,293	38,009
77	99,122	90,759	78,459	74	46,588	43,773	38,959
78	102,591	93,936	80,420	75	48,218	45,305	39,933
79	106,182	97,223	82,431	76	49,906	46,891	40,932
80	109,898	100,626	84,492				
Total	2,514,035	2,301,932	1,940,211	Total	1,076,494	1,011,466	840,744
%	100	91.6	77.2	%	100	94	78.1

Source: Retirement Plans: 40% vs. 50%, Retired Officers Association, *Navy Times*, April 27, 1998

APPENDIX B

U.S. Personal Saving Rates as a Percentage of Disposable Income

Year	Rate	Year	Rate
1929	3	1963	6.8
1930	2.5	1964	7.7
1931	2.1	1965	7.6
1932	-3.1	1966	7.3
1933	-3.9	1967	8.5
1934	-1.1	1968	7.5
1935	2.3	1969	7
1936	4.4	1970	8.4
1937	4	1971	8.7
1938	-0.3	1972	7.4
1939	2.4	1973	9.3
1940	3.8	1974	9.3
1941	10.7	1975	9
1942	23.1	1976	7.6
1943	24.5	1977	6.6
1944	25	1978	7.1
1945	19.2	1979	7.4
1946	8.5	1980	8.2
1947	3	1981	9.1
1948	5.8	1982	8.8
1949	3.7	1983	6.6
1950	5.9	1984	8.4
1951	7.3	1985	6.9
1952	7.2	1986	6.2
1953	7	1987	5
1954	6.2	1988	5.2
1955	5.7	1989	4.8
1956	7.1	1990	5
1957	7.2	1991	5.7
1958	7.4	1992	5.9
1959	7	1993	4.5
1960	6.4	1994	3.8
1961	7.5	1995	4.5
1962	7.4	1996	4.7

Source: EBRI Databook on Employee Benefits, 1997.

APPENDIX C

Department of the Navy Average Basic Pay Costs and Proposed TSP Contribution Rates

Rank	Rate	Number	Total	Max. Contribution	Total TSP Contribution.
Admiral	$113,614.71	1	$113,614.71	5%	$5,680.74
Admiral	$113,614.71	9	$1,022,532.39	5%	$5,680.74
Vice Admiral	$109,638.57	29	$3,179,518.53	5%	$5,481.93
Rear Admiral(UH)	$99,332.56	77	$7,648,607.12	5%	$4,966.63
Rear Admiral (LH)	$87,599.71	100	$8,759,971.00	5%	$4,379.99
Captain	$73,553.33	3094	$227,574,003.02	5%	$3,677.67
Commander	$58,499.25	6644	$388,669,017.00	5%	$2,924.96
Lieutenant Commander	$47,635.20	10732	$511,220,966.40	5%	$2,381.76
Lieutenant	$39,580.20	19569	$774,544,933.80	5%	$1,979.01
Lieutenant JG	$32,164.97	6292	$202,381,991.24	5%	$1,608.25
Ensign	$24,280.46	6500	$157,822,990.00	5%	$1,214.02
Warrant Off W-4	$47,271.78	308	$14,559,708.24	5%	$2,363.59
Warrant Off W-3	$38,934.54	785	$30,563,613.90	5%	$1,946.73
Warrant Off W-2	$33,001.49	635	$20,955,946.15	5%	$1,650.07
		Sum	$2,349,017,413.50		

Rank	Rate	Number	Total	Max. Contribution	Total TSP Contribuiton.
E-9	$39,849.57	3111	$123,972,012.27	5%	$1,992.48
E-8	$32,430.85	7411	$240,345,029.35	5%	$1,621.54
E-7	$27,544.71	24918	$686,359,083.78	5%	$1,377.24
E-6	$23,397.24	58083	$1,358,981,890.92	5%	$1,169.86
E-5	$19,160.37	72658	$1,392,154,163.46	5%	$958.02
E-4	$15,737.06	67358	$1,060,016,887.48	5%	$786.85
E-3	$13,416.36	45715	$613,328,897.40	5%	$670.82
E-2	$12,400.39	27341	$339,039,062.99	5%	$620.02
E-1	$10,698.98	24935	$266,779,066.30	5%	$534.95
		Sum	$6,080,976,093.95		

Source: Department of the Navy, FY 1998/1999 Biennial Budget Estimates, February 1997.

APPENDIX D

Future Basic Pay Rates by Rank Assuming 3 Percent COLA

Year	Ensign	Lieutenant Junior Grade	Lieutenant	Lieutenant Commander	Commander
1	$24,280.46	$32,164.97	$39,580.20	$47,635.20	$58,499.25
2	$25,008.87	$33,129.92	$40,767.61	$49,064.26	$60,254.23
3	$25,759.14	$34,123.82	$41,990.63	$50,536.18	$62,061.85
4	$26,531.91	$35,147.53	$43,250.35	$52,052.27	$63,923.71
5	$27,327.87	$36,201.96	$44,547.86	$53,613.84	$65,841.42
6	$28,147.71	$37,288.02	$45,884.30	$55,222.25	$67,816.66
7	$28,992.14	$38,406.66	$47,260.83	$56,878.92	$69,851.16
8	$29,861.90	$39,558.86	$48,678.65	$58,585.29	$71,946.70
9	$30,757.76	$40,745.62	$50,139.01	$60,342.85	$74,105.10
10	$31,680.49	$41,967.99	$51,643.18	$62,153.13	$76,328.25
11	$32,630.91	$43,227.03	$53,192.48	$64,017.73	$78,618.10
12	$33,609.84	$44,523.84	$54,788.25	$65,938.26	$80,976.64
13	$34,618.13	$45,859.56	$56,431.90	$67,916.40	$83,405.94
14	$35,656.67	$47,235.34	$58,124.86	$69,953.90	$85,908.12
15	$36,726.37	$48,652.40	$59,868.60	$72,052.51	$88,485.36
16	$37,828.17	$50,111.98	$61,664.66	$74,214.09	$91,139.93
17	$38,963.01	$51,615.33	$63,514.60	$76,440.51	$93,874.12
18	$40,131.90	$53,163.79	$65,420.04	$78,733.73	$96,690.35
19	$41,335.86	$54,758.71	$67,382.64	$81,095.74	$99,591.06
20	$42,575.93	$56,401.47	$69,404.12	$83,528.61	$102,578.79

Year	E-1	E-2	E-3	E-4	E-5	E-6	E-7
1	$10,698.98	$12,400.39	$13,416.36	$15,737.06	$19,160.37	$23,397.24	$ 7,544.71
2	$11,019.95	$12,772.40	$13,818.85	$16,209.17	$19,735.18	$24,099.16	$ 8,371.05
3	$11,350.55	$13,155.57	$14,233.42	$16,695.45	$20,327.24	$24,822.13	$29,222.18
4	$11,691.06	$13,550.24	$14,660.42	$17,196.31	$20,937.05	$25,566.80	$30,098.85
5	$12,041.80	$13,956.75	$15,100.23	$17,712.20	$21,565.17	$26,333.80	$31,001.81
6	$12,403.05	$14,375.45	$15,553.24	$18,243.57	$22,212.12	$27,123.81	$31,931.87
7	$12,775.14	$14,806.71	$16,019.84	$18,790.87	$22,878.48	$27,937.53	$32,889.82
8	$13,158.40	$15,250.92	$16,500.43	$19,354.60	$23,564.84	$28,775.65	$33,876.52
9	$13,553.15	$15,708.44	$16,995.44	$19,935.24	$24,271.78	$29,638.92	$34,892.81
10	$13,959.74	$16,179.70	$17,505.31	$20,533.29	$24,999.94	$30,528.09	$35,939.60
11	$14,378.53	$16,665.09	$18,030.47	$21,149.29	$25,749.94	$31,443.93	$37,017.79
12	$14,809.89	$17,165.04	$18,571.38	$21,783.77	$26,522.43	$32,387.25	$38,128.32
13	$15,254.19	$17,679.99	$19,128.52	$22,437.28	$27,318.11	$33,358.87	$39,272.17
14	$15,711.81	$18,210.39	$19,702.38	$23,110.40	$28,137.65	$34,359.64	$40,450.34
15	$16,183.17	$18,756.70	$20,293.45	$23,803.72	$28,981.78	$35,390.42	$41,663.85
16	$16,668.66	$19,319.40	$20,902.25	$24,517.83	$29,851.23	$36,452.14	$42,913.76
17	$17,168.72	$19,898.99	$21,529.32	$25,253.36	$30,746.77	$37,545.70	$44,201.17
18	$17,683.78	$20,495.96	$22,175.20	$26,010.96	$31,669.17	$38,672.07	$45,527.21
19	$18,214.30	$21,110.83	$22,840.45	$26,791.29	$32,619.25	$39,832.23	$46,893.02
20	$18,760.73	$21,744.16	$23,525.67	$27,595.03	$33,597.82	$41,027.20	$48,299.82

APPENDIX E

Department of the Navy Average Age by Rank

Rank	Average Age	Rank	Average Age
O-1	23.2	E-1	19.4
O-2	26.4	E-2	18.3
O-3	29.0	E-3	20.1
O-4	34.6	E-4	22.1
O-5	39.2	E-5	25.3
O-6	44.0	E-6	29.5
O-7	49.0	E-7	32.6
O-8	51.7	E-8	35.8
O-9	51.7	E-9	38.8
O-10	53.0		

Source: Defense Manpower Data Center, SAS.

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